

# FLAGPOLES

*in COPPER BEARING  
STEEL and BRONZE*



JOHN E. LINGO & SON, INC.  
CAMDEN • NEW JERSEY • U.S.A.

# ЭПОЧА ГА

СОВРЕМЕННОСТИ  
СОВРЕМЕННОСТИ

#100

# ARCHITECTS' GUIDE

---

*and*

# GENERAL CATALOGUE

---

*of*

## SWAGED SECTIONAL *and* CONTINUOUS TAPERED

## FLAG POLES

*in*

### Copper Bearing Steel and Bronze

*Distributed by*

**CHESEBRO=WHITMAN CO.**  
INCORPORATED

38-21 Sherman St. Long Island City, N. Y.  
PHONE STILLWELL 2100

Specialists in Flagpole  
Erection and Maintenance

Established 1879

*Manufactured by*

**JOHN E. LINGO & SON, INC.**  
ESTABLISHED 1897  
28th Street and Buren Avenue  
CAMDEN, N. J.  
U. S. A.

*Issue of March 1, 1930*

## Foreword

FOR the convenience of the Architects, Engineers, Ornamental Iron and Bronze Manufacturers, Contractors, Builders and all other flagpole users, this Architects' Guide and General Catalogue has been prepared.

Flagpoles have been our exclusive specialty since 1897, and at that time we adopted the policy of manufacturing the very best possible products. We still maintain this high standard, never sacrifice quality to meet competition and at the same time strive to improve design and offer dependable service. By giving the greatest possible value for the money expended has helped us win the interest, friendship and confidence of our many customers.

We wish to take this opportunity to thank our many friends for the courtesies they have shown us, and assure them and prospective purchasers of our intention to adhere to the high standard of quality and service established in the past.

## Contents

Foreword .....	2	Tubes, Steel, for Foundations .....	32
Summary of Products .....	4	Flash Collars, Bronze .....	32
Copper Bearing Steel .....	5	Guide Flanges, Steel .....	32
Swaged Sectional Flagpoles (for Ground Setting or Roof Setting) .....	6-27	Roof Tubes, Steel .....	32
General Construction of Ground Set or Roof Set Flagpoles .....	6	Pole Sockets, Cast Iron .....	32
Details and Prices of Ground Set Flagpoles	8-13	Plates, Steel, for Pole Sockets .....	32
Light Pattern .....	8-9	Flashings, Copper .....	32
Heavy Pattern .....	10-11	Braces: Tubular Turnbuckle .....	32
Extra Heavy Pattern .....	12-13	Adjustable Telescope .....	32
Specifications for Ground Set Flagpoles ...	14	Tension .....	32
Erection and Foundation Details .....	15	Continuous Tapered Flagpoles (for Ground, Roof or Outrigger Setting) .....	33-57
Details and Prices of Roof Set Flagpoles..	16-19	General Construction of Ground Set or Roof Set Flagpoles .....	33
Heavy Type .....	16-17	Details for Standard Ground Set or Roof Set Flagpoles up to 50 ft. in length .....	35
Extra Heavy Type .....	18-19	Details for Standard Ground Set or Roof Set Flagpoles from 60 ft. to 100 ft. in length .....	37
Specifications for Roof Set Flagpoles, anchored directly on roof with braces .....	20	Details for Sub-Standard Ground Set or Roof Set Flagpoles up to 50 ft. in length .....	39
Details for bracing Roof Set Flagpoles, directly on roof .....	21	Details for Sub-Standard Ground Set or Roof Set Flagpoles from 60 ft. to 100 ft. in length .....	41
Braces for Roof Set Flagpoles .....	21-23	Typical Arrangement of Ornamental Base, Stone Work and Foundation for Ground Set Flagpoles .....	42
Tubular Turnbuckle Braces .....	21	Specifications for Ground Set Flagpoles ...	43
Adjustable Telescope Braces .....	21	Specifications for Roof Set Flagpoles anchored to roof with braces .....	45
Tension Braces .....	23	Specifications for Roof Set Flagpoles extended through roof and supported without braces .....	47
Specifications for Roof Set Flagpoles, extended through roof and supported without braces .....	24	General Information on Outrigger or Window Flagpoles .....	49-55
Details for anchoring Roof Set Flagpoles, extended through roof and supported without braces .....	25	Details, Prices and Specifications of Outrigger Flagpoles with fixed base arrangement and braces .....	51
How to properly estimate cost of Roof Set Flagpoles .....	26	Details, Prices and Specifications of Outrigger Flagpoles with fixed base arrangement without braces .....	53
Partial List of Swaged Sectional Flagpole Installations .....	27	Details, Prices and Specifications of Outrigger Flagpoles with hinged arrangement and braces .....	55
Fittings for Flagpoles .....	28-32	Partial List of Continuous Tapered Flagpole Installations .....	57
Bases, ornamental cast iron, stock design..	28-29	Comparative Illustrations of Proper and Improper Flagpole Designs .....	58
Cleats, cast iron galvanized or bronze .....	29	Swaged Sectional Tubular Steel Radio Masts .....	59
Cleat Covers, cast iron galvanized .....	29	Swaged Sectional and Continuous Tapered Ship and Yacht Spars .....	59
Halyards: $\frac{3}{8}$ -in. U. S. Standard manila bolt rope halyards .....	29	Terms and Conditions .....	60
Silver Lake A No. 10 cotton braided halyards .....	29		
Trucks: Standard ball bearing revolving trucks, cast iron galvanized or bronze .....	30		
Extra Heavy ball bearing revolving trucks, cast iron galvanized or bronze .....	30		
Balls, gold leafed copper .....	30		
Eagle on ball finials, gold leafed copper....	31		
Weathervanes: Eagle, gold leafed copper...	31		
Arrow, gold leafed copper..	31		
Pen, gold leafed copper....	31		

## WOODEN FLAGPOLES vs. METAL FLAGPOLES

Although some wooden flagpoles are still in use, they are constantly being replaced by metal flagpoles. In the past, wooden flagpoles were the only type ever specified; but as they were extremely dangerous, due to their destruction by lightning and deterioration by weather conditions, it was found necessary to find a logical substitute to overcome these hazards to life and property.

"Lingo" Copper Bearing Steel and Bronze Flagpoles have taken the place of wooden flagpoles and are entirely safe, being lightning-proof, airtight, watertight, non-corrosive on the inside and assure indefinite life if painted occasionally after erection.

## P R O D U C T S

### TWO DISTINCT TYPES OF FLAGPOLE CONSTRUCTION

#### 1. Swaged Sectional Flagpoles

Swaged Sectional Flagpoles are fabricated in sections of Copper Bearing Steel pipe and standardized in three weights for ground setting:

Light Pattern	17' to 100' (longer lengths to order)
Heavy Pattern	20' to 125' " " " "
Extra Heavy Pattern	25' to 100' " " " "

and standardized in two weights for roof setting:

Heavy Type	15' to 100' (longer lengths to order)
Extra Heavy Type	20' to 75' " " " "

#### 2. Continuous Tapered Flagpoles

Continuous Tapered Flagpoles are constructed in either Copper Bearing Steel or Bronze without visible joints, have a smooth uninterrupted exterior surface throughout, resemble a finished wood flagpole in contour and appearance, and are tapered conically or with entasis; standardized in two weights for ground setting or roof setting:

Standard	20' to 100' (longer lengths to order)
Sub-Standard	20' to 100' " " " "

and standardized in three weights for outrigger or window setting with braces and either fixed base arrangement or hinged base arrangement:

Light, 16' to 30'—Heavy, 16' to 30'—Extra Heavy, 16' to 30'

and for outrigger or window setting without braces and with fixed base arrangement:

Light, 7' to 12'

### FITTINGS FOR FLAGPOLES

(Not for sale for flagpoles not our own manufacture)

Standard or Extra Heavy Ball Bearing Revolving Trucks with Cast Iron Galvanized or Bronze Body.  
Gold Leafed Copper Balls, Standard Finials and Weather-vanes.

Cast Iron Galvanized or Bronze Cleats.

Cast Iron Galvanized Cleat Covers.

Manila Bolt Rope or Cotton Braided Halyards.

Ornamental Cast Iron Flagpole Bases of Standard Design.

Adjustable Telescope, Tubular Turnbuckle and Tension Braces with all other fittings for roof set flagpoles.

### SWAGED SECTIONAL TUBULAR STEEL

RADIO MASTS ..... 37' to 450'

SWAGED SECTIONAL AND CONTINUOUS TAPERED STEEL OR BRONZE MASTS, TOPMASTS AND BOOMS ..... 50' to 200'

## S E R V I C E

We gladly assist Architects and Builders without charge or obligation in handling their flagpole problems in the most satisfactory and economical manner. On request we will make preliminary studies and recommendations and therefore solicit your correspondence regarding flagpole problems. Through years of experience derived from having satisfactorily met the demands of unusual, as well as ordinary conditions and the satisfactory completions of many installations by constantly keeping pace with the improved methods of construction, we are able to give valuable suggestions and advice as to the best methods of meeting any or all conditions. Our organization has been built up to render prompt attention to flagpole problems and you can depend on it. We have directed all efforts to improve service and regardless of whether you contemplate buying a dozen or one single flagpole our same speedy service is assured.

## Copper Bearing Steel

In 1926 we adopted Copper Bearing steel **exclusively** for the manufacture of "Lingo" flagpoles because of its greater rust resistance to atmospheric conditions and its longevity for use in flagpole construction. Copper Bearing steel is an alloy made by adding a certain amount of copper to well-made steel. Copper added to steel is not an impurity no more than copper is an impurity to brass or bronze. It becomes thoroughly diffused through the steel, thus forming a homogenous new metal or alloy.

Architects and Engineers are recognizing the value of Copper Bearing steel for flagpole construction, inasmuch as the relative merits of Copper Bearing steel against non-copper bearing steel exposed to the atmosphere are now quite definitely defined. The subject has had many years of study and experimenting behind it, and, therefore, it is not a new or untried theory.

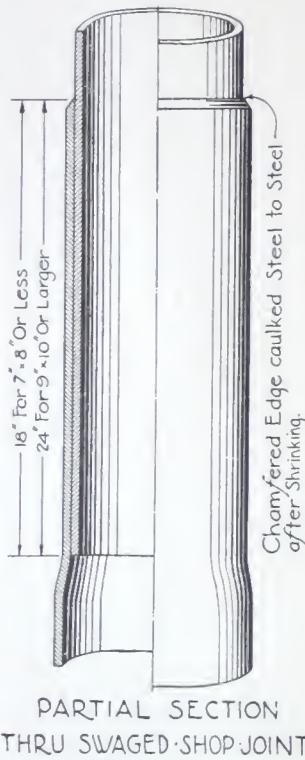
Copper Bearing steel is being used in constantly increasing quantities, and is being recognized more and more as a standard product for many purposes, because numerous observations, laboratory and field tests, as well as actual service records, for more than fifteen years, have demonstrated that steel containing some percentage of copper is longer lived under certain corrosive conditions than steel without copper. The best results from the use of Copper Bearing steel have been obtained from its application to atmospheric corrosion, and the most comprehensive and valuable tests on record, showing the relative dependability of various metals with and without copper when exposed to atmospheric

conditions, are those carried out by the American Society for Testing Materials, whose tests began in 1915 and are not yet completed. The question is sometimes asked: Since flagpoles are painted, why use Copper Bearing steel? It is well to point out that paints are by no means everlasting. Frequently, due to the development of pin holes and subsequent flaking, paint allows the base metal to be exposed to moisture in the atmosphere and, therefore, if repainting is not frequently resorted to, rusting begins and non-copper metal has a relatively short life. However, if the base metal is Copper Bearing steel, the flagpoles will serve their purpose satisfactorily for many more years. Moreover, the paint adheres better to Copper Bearing steel, probably due to the lesser tendency for corrosion of the Copper Bearing steel base under a paint film which might be more or less porous. Close checking and experiments on the effect of copper added to steel has shown that the effects of small quantities of copper is not harmful. It has been found that the most desirable range of copper for steel flagpoles is from .20 to .35 per cent. Beyond this range, increasing the amount of copper apparently does not increase the resistance to atmospheric corrosion.

The many experiments and investigations have brought about the generally accepted evidence that Copper Bearing steel is a definite serviceable factor in the conservation of metals exposed to atmospheric corrosion, and inasmuch as the fatigue of metals under stress is increased by corrosion, Copper Bearing steel is, therefore, particularly beneficial for use in flagpoles.

## GENERAL CONSTRUCTION OF SWAGED SECTIONAL COPPER BEARING TUBULAR STEEL FLAGPOLES

Swaged Sectional Flagpoles are designed to withstand wind stresses up to 90 miles velocity per hour with a conservative bending resistance.



PARTIAL SECTION  
THRU SWAGED-SHOP JOINT.

diameter of the smaller pipe, by our specially designed 100-ton hydraulic press. While hot the swaged end is pushed 18 in. to 24 in. over the smaller pipe and allowed to shrink. The chamfered edge is then caulked steel to steel. While actual tests of joints made by this method have shown them to be theoretically stronger in bending resistance than the pipe itself, they are not airtight and watertight, so we have adopted the seam caulking method to accomplish this result. This caulking is an imperative necessity to prevent interior corrosion.

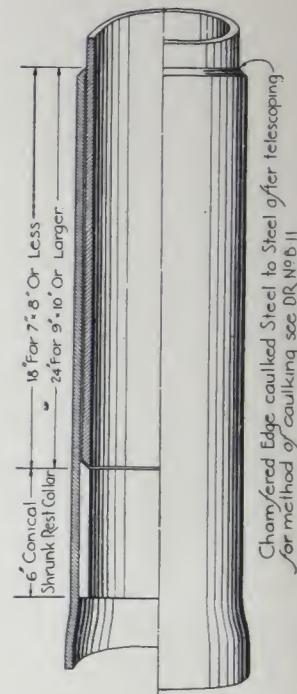
The patented field joint is produced as follows: The larger pipe is cut to length, chamfered and swaged in a  $\frac{1}{16}$ -in. oversize die; a conical rest collar is inserted in the reduced end, shrunk and electric-welded in place. The

small pipe is pushed into the larger pipe in the field at the time of erection. With a caulking chisel, which we furnish with each flagpole, and an ordinary hammer, the flagpole erector makes the joint airtight and watertight by caulking steel to steel, or in other words, the metal on the upper edge of the bevel on the larger pipe is so dislocated as to come in perfect contact with the inner pipe. Inexperienced men may in a minimum length of time accomplish the erection of our Swaged Sectional Flagpoles.

Positively no bolts, screws, couplings, pins, rivets or lead caulking are used in shop or field joints of these flagpoles. Swaged construction, as used in our Swaged Sectional Flagpoles, is the only construction acceptable by the United States Government (Navy, War and Treasury Departments, etc.), together with the New York City and Philadelphia School Boards, as well as hundreds of prominent Architects and Engineers throughout the country.

In the Florida hurricanes of 1927 and 1928 reports show that "Lingo" flagpoles withstood gales up to 180 miles per hour **without a single failure.**

Swaged Sectional Flagpoles are shipped in knocked-down sections up to 22 ft. in length, which allows transportation at a minimum rate for less than car-load lots. These flagpoles are carried in stock and prompt shipments are assured.



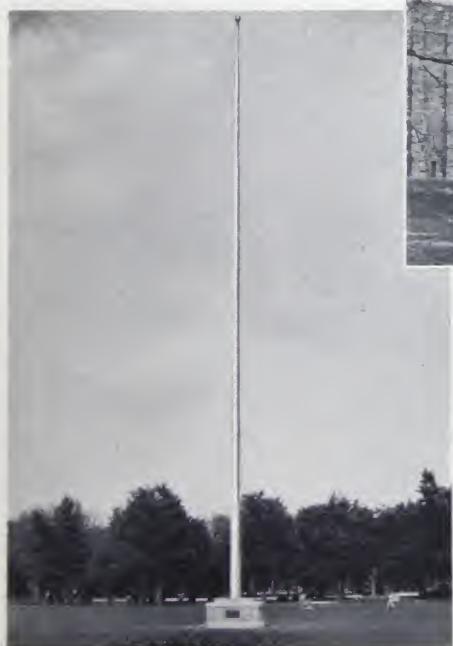
PARTIAL SECTION  
THRU-SWAGED-FIELD JOINT.



125 ft. above grade by 137 ft. overall—Heavy Pattern Swaged Sectional Flagpole, Soldiers' Home, Sawtelle, Calif.



One of two 62 ft. above grade by 69 ft. overall—Extra Heavy Pattern Swaged Sectional Flagpoles, Baltimore City College, Baltimore, Md.



100 ft. above grade by 110 ft. overall—Extra Heavy Pattern Swaged Sectional Flagpole, Mayo Park, Rochester, Minn.



90 ft. above grade by 99 ft. overall—Heavy Pattern Swaged Sectional Flagpole, Fort Armstrong, Honolulu, T. H.



100 ft. above grade by 110 ft. overall—Extra Heavy Pattern Swaged Sectional Flagpole, Municipal Stadium, Birmingham, Ala.



73 ft. above grade by 79 ft. overall—Light Pattern Swaged Sectional Flagpole  
Sam Davis Memorial, near Smyrna, Tenn.

LIGHT PATTERN  
SWAGED SECTIONAL COPPER BEARING TUBULAR STEEL FLAGPOLES  
for  
GROUND SETTING

Light Pattern Flagpoles are the lightest which can be made for ground setting with a safe margin allowed for climbing and repainting. The various diameters of the tubular sections and exposed lengths are the most economical that can be employed without undue waste. These flagpoles have a conservative bending resistance and if subjected to severe stresses they will not break at the ground line, but will bend in the middle. They are adaptable for private homes, schools, or where the available funds are not sufficient to purchase a higher priced pole.

The life of these flagpoles is indefinite if periodical care is taken of them after erection. We do not recommend these flagpoles for locations near the sea coast or where high wind stresses prevail.

Each flagpole complete with the following fittings:-

Gold Leafed copper ball (See table below for diameter)	
Standard Ball bearing Revolving Truck (cast iron body)	Bronze body Extra
Two (2) sets $\frac{1}{8}$ " U.S. Std manila bolt rope halyards	Silver Lake A.N.O Cotton braided halyards extra $65\frac{1}{2}$
Four (4) bronze swivel snaps for halyards	
Two (2) 9" galvanized C.C. cleats	Bronze Cleats Extra
Shrunk ground protector	
One shop coat of Red Metal Primer	

Disposable Extras.

Ornament Flagpole Bases	See page 28 & 29
Weather Vanes & Finials	See page 31.
Cleat Covers	See page 29.
Bronze Trucks & Cleats - Silver Lake Halyards	See page 29 & 30.

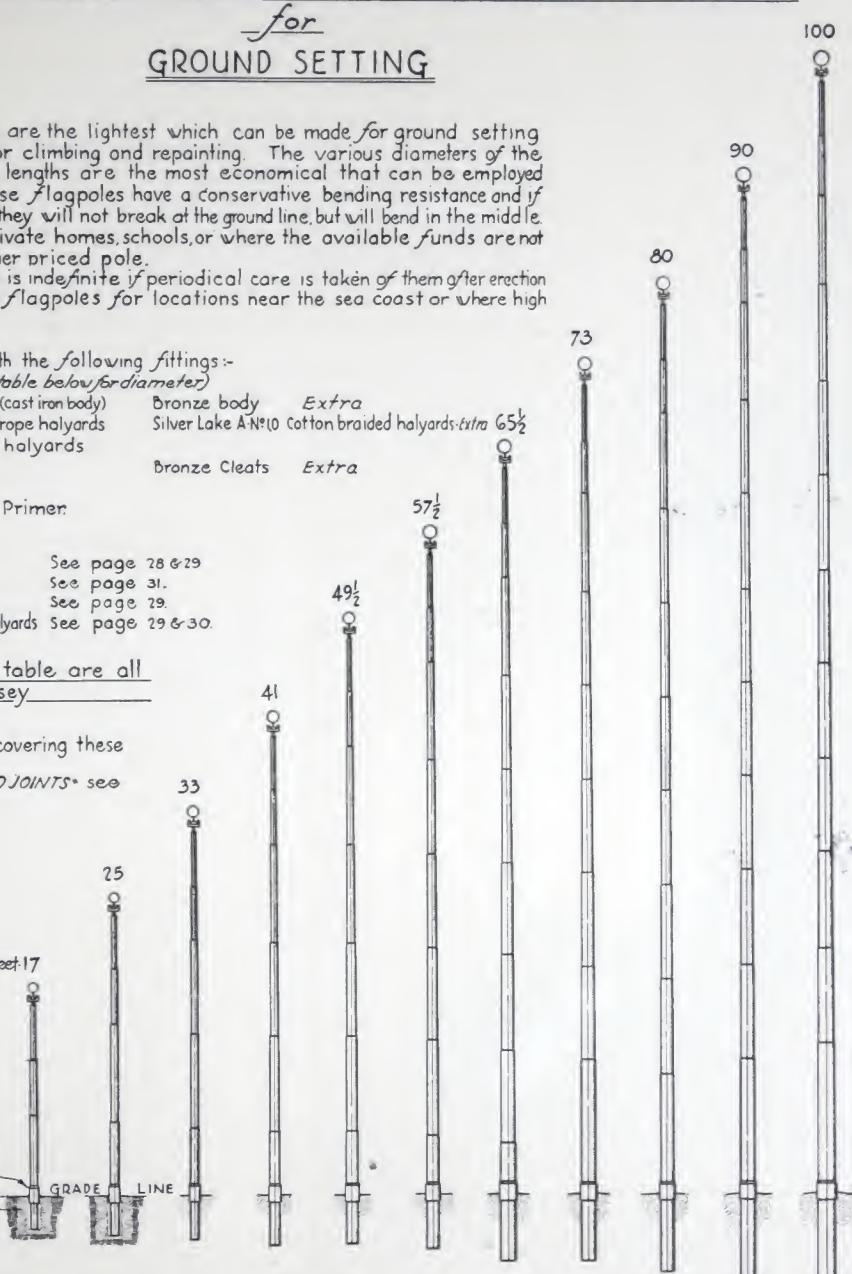
Prices shown below in table are all  
F.O.B. Cars Camden - New Jersey

For detail specifications covering these flagpoles see page 14  
For details of "SHOP & FIELD JOINTS" see page 6.

Exposed height above ground in feet 17

18" Shrunk ground protector  
12" above and 6" below grade

For dimensions relative to Foundations see Dr. No. B-11 on page 15



EXPOSED HEIGHT above ground/FEET	17	25	33	41	49 $\frac{1}{2}$	57 $\frac{1}{2}$	65 $\frac{1}{2}$	73	80	90	100	
Set in Foundation - Feet	3	3 $\frac{1}{2}$	4	4 $\frac{1}{2}$	4 $\frac{1}{2}$	5	6	6	7	8	8	
Total Length of Pole - Feet	20	28 $\frac{1}{2}$	37	45 $\frac{1}{2}$	54	62 $\frac{1}{2}$	71 $\frac{1}{2}$	79	87	98	108	
Dia of <del>XX</del> Gold Leafed Copper Ball-Inches	5	5	6	6	6	8	8	8	8	10	10	
Outside Diameter Top Section-Inches	2 $\frac{3}{8}$	2 $\frac{3}{8}$	2 $\frac{3}{8}$	2 $\frac{3}{8}$	2 $\frac{3}{8}$	2 $\frac{3}{8}$	2 $\frac{3}{8}$	2 $\frac{3}{8}$	2 $\frac{3}{8}$	2 $\frac{3}{8}$	2 $\frac{3}{8}$	
Outside Diameter Butt Section-Inches	3 $\frac{1}{2}$	4	4 $\frac{1}{2}$	5	5 $\frac{1}{8}$	6 $\frac{1}{8}$	7 $\frac{1}{8}$	7 $\frac{1}{8}$	8 $\frac{1}{8}$	9 $\frac{1}{8}$	10 $\frac{1}{4}$	
Shipping Weight ... Lbs	145	242	360	502	653	850	1100	1310	1625	2100	2600	
Number of K.D. Sections (Subject to reduction)	1	2	2	3	3	4	4	5	5	6	6	
PRICE COMPLETE with FITTINGS	\$46.50	\$66.00	\$92.50	\$122.00	\$153.50	\$197.50	\$250.00	\$293.00	\$365.00	\$460.00	\$560.00	
Telegraphic Code	LIP	LAMP	LABEL	LUMP	LOOP	LAPEL	LEOPARD	LOG	LARK	LYE	LOGWOOD	



125 ft. above grade by 137 ft. overall—Heavy Pattern Swaged Sectional Flagpole  
National Military Home, Leavenworth, Kansas

HEAVY PATTERN

SWAGED SECTIONAL COPPER BEARING TUBULAR STEEL FLAGPOLES <sup>100</sup>  
for  
GROUND SETTING

As Heavy Pattern Flagpoles are heavier than Light Pattern Flagpoles they therefore render better service. The diameters of the various tubular sections are increased and the exposed lengths are so proportioned that the flagpoles have a greater bending resistance which makes them ideal for all kinds of installations. The life of these flagpoles is indefinite if periodical care is taken of them after erection.

For locations near the sea coast we recommend these flagpoles to be galvanized the galvanizing being done by the hot process after fabrication at an extra cost.

Each flagpole complete with the following fittings:-

Gold Leafed copper ball (See table below for diameter)  
 Standard Ball Bearing Revolving Truck (cast iron body)  
 Two (2) sets  $\frac{3}{8}$ " u.s. std. manila bolt rope halyards  
 Four (4) bronze swivel snaps for halyards  
 Two (2) 9" galvanized C.I. Cleats  
 Shrunk ground protector  
 One shop coat of Red Metal Primer

Bronze body Extra

Silver Lake A-N-10 Cotton braided halyards Extra

Bronze Cleats Extra

Disposable Extras:-

Ornamental Flagpole Bases See page 28 & 29  
 Weather Vanes & Finials See page 31  
 Cleat Covers See page 29  
 Bronze Trucks & Cleats. Silver Lake Halyards See page 29 & 30

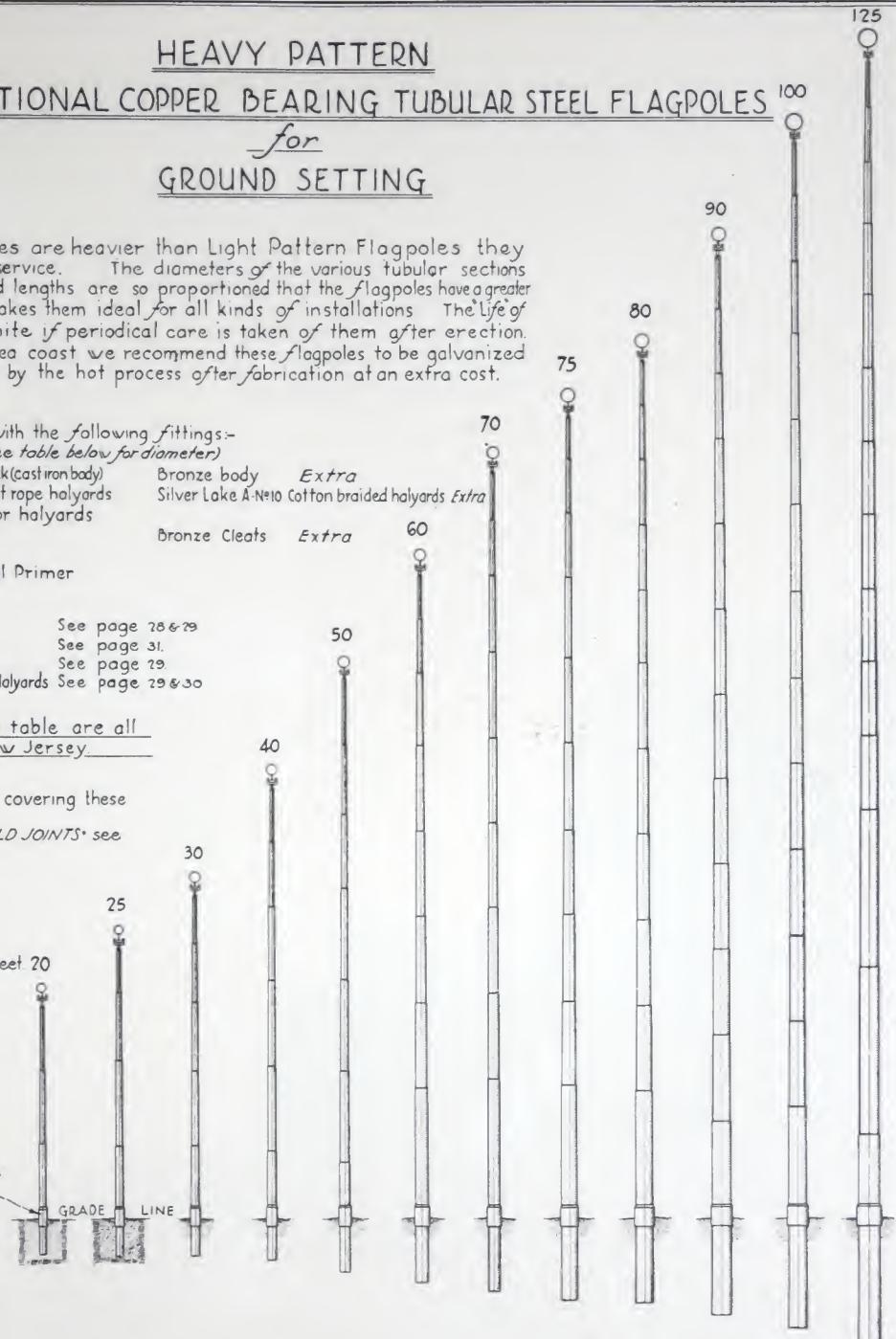
Prices shown below in table are all  
 F.O.B. Cars Camden New Jersey

For detail specifications covering these  
 flagpoles see page 14  
 For details of "SHOP & FIELD JOINTS" see  
 page 6.

Exposed height above ground in Feet 20

18" Shrunk ground protector  
 12" above and 6" below grade

For dimensions relative to  
 Foundations see Dr. N. B. 11 on  
 page 15.



EXPOSED HEIGHT above ground FEET	20	25	30	40	50	60	70	75	80	90	100	125
Set in Foundation - Feet	3	3 $\frac{1}{2}$	3 $\frac{1}{2}$	4	5	6	7	7 $\frac{1}{2}$	8	9	10	12
Total Length of Pole - Feet	23	28 $\frac{1}{2}$	33 $\frac{1}{2}$	44	55	66	77	82 $\frac{1}{2}$	88	99	110	137
Dia. of XX Gold Leafed Copper Ball-Inches	5	5	6	6	8	8	8	10	10	10	12	14
Outside Diameter - Top Section-Inches	2 $\frac{7}{8}$	2 $\frac{7}{8}$	2 $\frac{7}{8}$	2 $\frac{7}{8}$	2 $\frac{7}{8}$	2 $\frac{7}{8}$	2 $\frac{7}{8}$	2 $\frac{7}{8}$	2 $\frac{7}{8}$	2 $\frac{7}{8}$	2 $\frac{7}{8}$	2 $\frac{7}{8}$
Outside Diameter - Butt Section-Inches	4	4 $\frac{1}{2}$	5	5 $\frac{3}{16}$	6 $\frac{1}{2}$	7 $\frac{1}{2}$	8 $\frac{1}{2}$	9 $\frac{1}{2}$	10 $\frac{1}{4}$	11 $\frac{1}{4}$	12 $\frac{1}{4}$	14
Shipping Weight ... Lbs.	218	314	405	593	800	1200	1600	1960	2410	2840	3600	5414
Number of KD Sections (Subject to reduction)	1	2	2	3	3	4	4	5	5	6	6	7
PRICE COMPLETE with FITTINGS	\$60.00	\$80.00	\$100.00	\$140.00	\$186.00	\$268.00	\$350.00	\$430.00	\$520.00	\$600.00	\$770.00	\$1150.00
Telegraphic Code	SAGE	SNAG	SLEIGH	SMUGGLER	SONG	SIGN	SUGAR	SPIGOT	SLEDGE	SERGE	SHINGLE	SPOONGE



100 ft. above grade by 110 ft. overall—Extra Heavy Pattern Swaged Sectional Flagpole with ornamental cast iron base design No. 1999

General Lee's Headquarters, Arlington National Cemetery, Arlington, Va.

EXTRA HEAVY PATTERN  
SWAGED SECTIONAL COPPER BEARING TUBULAR STEEL FLAGPOLES  
for  
GROUND SETTING

Extra Heavy Pattern Flagpoles are designed to meet the demands for a steel flagpole approaching in contour the wood flagpole. By the great number of reductions in the tubular sections the joints are almost invisible at comparatively short distances. Being heavier than the Heavy Pattern we recommend them for locations where high wind stresses prevail.

The "life" of these flagpoles is indefinite if periodical care is taken of them after erection. For locations near the sea coast we recommend these flagpoles to be galvanized the galvanizing being done by the hot process after fabrication at an extra cost.

Each flagpole complete with the following fittings:-

Gold Leafed copper ball. (see table below for diameter)

\* Standard Ball Bearing Revolving Truck (cast iron body). Bronze body Extra.

Two (2) sets  $\frac{3}{8}$ " U.S. Std manila bolt rope halyards.

Four (4) bronze swivel snaps for halyards.

Two (2) 9" galvanized C.I. Cleats.

Shrunk ground protector

One shop coat of Red Metal Primer

Disposable Extras:-

Ornamental Flagpole Bases See page 28 & 29

Weather Vanes & Finials See page 31

Cleat Covers. See page 29.

Bronze Trucks & Cleats-Silver Lake Halyards See page 29 & 30.

Prices shown below in table are all  
P.O.B cars Camden-New Jersey

For detail specifications covering these  
flagpoles see page 14

For details of "SHOP & FIELD JOINTS" see page 6

Exposed height above ground infeet. 25

18" Shrunk ground protector  
12" above and 6" below grade

For dimensions relative to  
Foundations see Dr. No B-11. on  
page 15

\* Extra Heavy Ball Bearing Revolving Truck furnished on  
poles with 4' top diameter (see table below & page 30)

EXPOSED HEIGHT above ground FEET	25	30	35.	40	47	55	62	70	77	85	90	100
Set in Foundation - Feet	3 $\frac{1}{2}$	3 $\frac{1}{2}$	4	5	6	6	7	7	8	8	10	10
Total Length of Pole - Feet	28 $\frac{1}{2}$	33 $\frac{1}{2}$	39	45	53	61	69	77	85	93	100	110
Dia. of XX Gold Leafed Copper Ball-Inches	6	6	8	8	8	8	10	10	12	12	14	14
Outside Diameter Top Section-Inches	2 $\frac{1}{8}$	2 $\frac{1}{8}$	3 $\frac{1}{2}$	* 4	* 4	* 4	* 4	* 4				
Outside Diameter Butt Section-Inches	5	5 $\frac{1}{8}$	6 $\frac{1}{8}$	7 $\frac{1}{8}$	8 $\frac{1}{8}$	9 $\frac{1}{8}$	10 $\frac{1}{8}$	11 $\frac{1}{8}$	12 $\frac{1}{8}$	14	15	16
Shipping Weight ... Lbs.	380	498	716	960	1212	1661	1950	2612	3183	4260	4932	5870
Number of KD Sections (Subject to reduction)	2	2	2	3	3	4	4	5	5	6	6	7
PRICE COMPLETE with FITTINGS	\$95.00	\$120.00	\$165.00	\$215.00	\$265.00	\$350.00	\$425.00	\$570.00	\$690.00	\$900.00	\$1050.00	\$1250.00
Telegraphic Code	EGLET	EGRET	ENGULF	EMERGE	ENERGY	ENGLISH	ENGINE	ENDIVE	EGG	EGYPT	EGO	EDGE

## SPECIFICATIONS FOR SWAGED SECTIONAL COPPER BEARING TUBULAR STEEL FLAGPOLES FOR GROUND SETTING—WITH STANDARD FITTINGS

Furnish and erect a swaged sectional copper bearing tubular steel flagpole complete with all standard fittings as listed below, made by John E. Lingo & Son, Inc., Camden, New Jersey, and build concrete foundation in accordance with their detail drawing No. B-11. Flagpole to be ground set (Light) (Heavy) (Extra Heavy) pattern with.....feet exposed height above ground by .....feet total length with.....inches butt diameter. After erection, apply over the shop coat of red metal primer two finishing coats of white lead and oil.

**Flagpole Construction**—Flagpole to be fabricated in sections of standard full weight copper bearing tubular steel pipe of diameters, thicknesses, lengths and joints as detailed by John E. Lingo & Son, Inc., for this type pole. Shop joints to be swaged, shrunk and caulked steel to steel. Field joints to be caulked steel to steel, airtight and watertight to prevent interior corrosion and deterioration. All joints to be constructed without use of bolts, pins, rivets, screw couplings or lead calking.

**Ball**—To be of size recommended by John E. Lingo & Son, Inc., for this type flagpole and to be constructed of 20-oz. copper, covered with Hastings XX gold leaf over three coats of galvanum and one coat of waterproof size. Ball to be mounted on a  $\frac{3}{4}$ -in. seamless brass tube and slipped over a  $\frac{5}{8}$ -in. diameter galvanized rod attached to truck.

**Truck**—To be "Lingo" standard ball-bearing, revolving truck, cast iron body galvanized, revolving on manganese bronze spindle, with top and bottom ball races, with twenty-six  $\frac{1}{4}$ -in. diameter bronze balls each. Truck to be fitted with two  $2\frac{3}{8}$ -in. diameter bronze roller bushed sheaves and  $\frac{3}{8}$ -in. diameter bronze pins.

**Truck**—(For Extra Heavy Pattern flagpoles with 4-in. top diameter only)—To be "Lingo" extra heavy ball bearing revolving truck, cast iron body galvanized, revolving on manganese bronze spindle, with bottom ball race with thirty  $\frac{1}{4}$ -in. diameter manganese bronze balls. Truck to be fitted with two 4-in. diameter bronze sheaves with bronze roller bearings and  $\frac{1}{2}$ -in. Monel Metal pins.

**Halyards**—Provide two sets of  $\frac{3}{8}$ -in. diameter U. S. standard manila bolt rope halyards with bronze swivel snaps at each end for securing to flag.

**Cleats**—Provide two 9-in. cast iron galvanized cleats to be tapped to flagpole with  $\frac{5}{16}$ -in. galvanized flat head stove bolts.

**Ground Protector**—To be copper bearing steel, 18 in. long, extending 12 in. above and 6 in. be-

low the grade, and shall be shrunk to the flagpole, caulked on the upper edge and electric-welded on the lower edge to the flagpole.

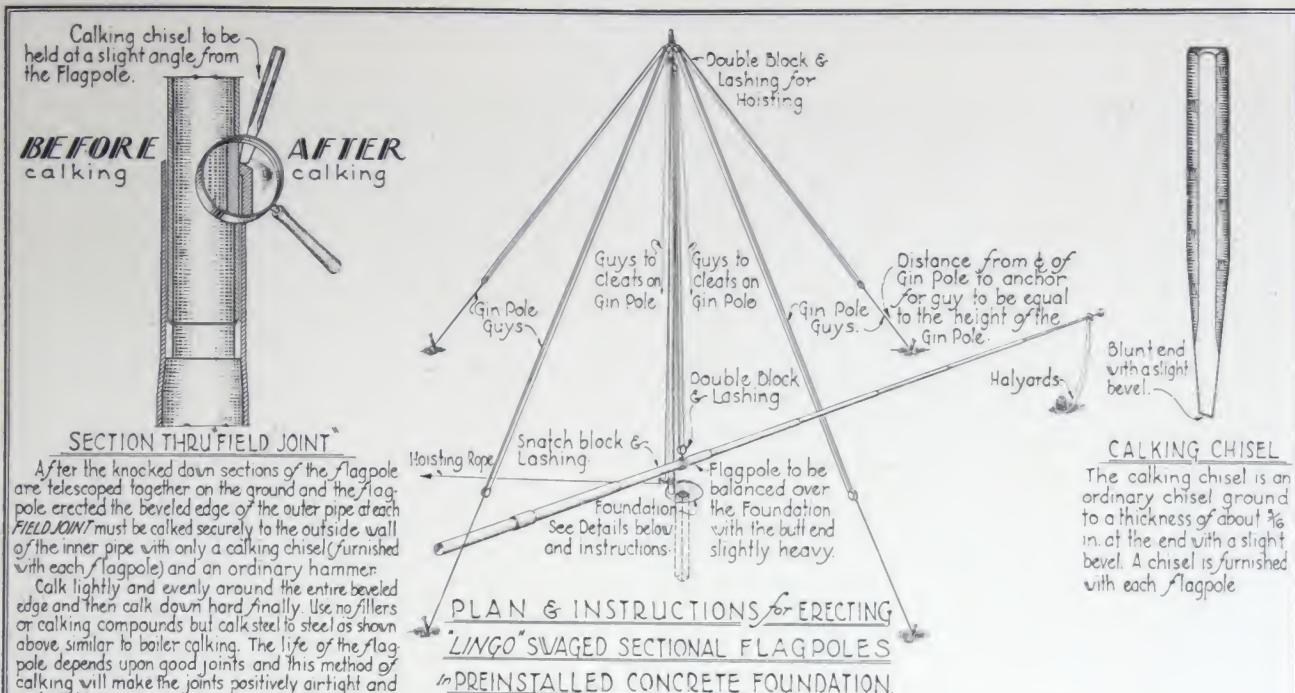
## DISPENSABLE EXTRAS AND SUBSTITUTES

**Ornamental Base**—If an Ornamental Base is desired for the flagpole, the Ground Protector should be omitted from the above specification. In order to save unnecessary expense, we suggest that Architects consider one of our stock design ornamental cast iron bases, shown on page 28, before designing a special base. If a stock base is to be used, first select the flagpole of height and pattern desired (see pages 9, 11 and 13), note the butt diameter and then refer to page 28 for details of our stock ornamental cast iron bases. Each base listed on page 28 fit certain flagpoles only, the butt diameters of which are shown under each base. To avoid trouble later, first please select the flagpole and then select a base which will fit the butt diameter of the flagpole selected.

**Weathervane or Finial**—Stock design Weathervanes and Finials are furnished at extra cost. If a Weathervane or Finial is desired for the flagpole, in lieu of the Ball, the Ball mentioned in the above specification should be omitted. In order to save unnecessary expense we suggest that Architects consider one of our stock design Weathervanes or Finials before designing a special vane or finial. (See page 31.)

**Bronze Trucks and Bronze Cleats**—In lieu of the cast iron galvanized trucks and cleats mentioned in the above specification, Bronze Trucks and Bronze Cleats are furnished at extra cost. (See pages 29 and 30.)

**Cotton Braided Halyards**—Silver Lake A No. 10 cotton braided halyards are furnished at extra cost in lieu of the U. S. standard manila bolt rope halyards mentioned in the above specification. (See page 29.)



SECTION THRU FIELD JOINT

After the knocked down sections of the flagpole are telescoped together on the ground and the flagpole erected the beveled edge of the outer pipe at each FIELD JOINT must be caulked securely to the outside wall of the inner pipe with only a calking chisel (furnished with each flagpole) and an ordinary hammer.

Calk lightly and evenly around the entire beveled edge and then calk down hard. Finally, use no fillers or calking compounds but calk steel to steel as shown above similar to boiler calking. The life of the flagpole depends upon good joints and this method of calking will make the joints positively airtight and watertight.

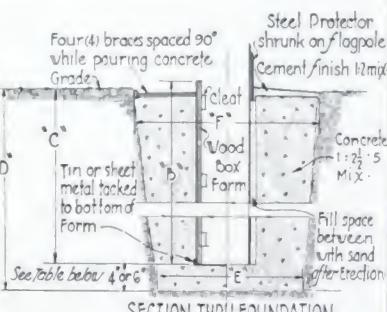
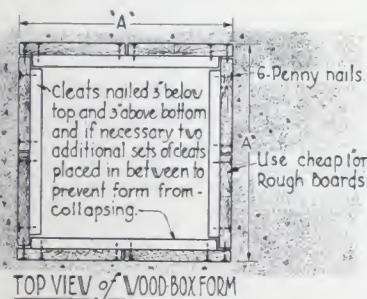
Equipment required: Gin pole or derrick not less than one half of the flagpole height; four (4) guy ropes with blocks and pennants for supporting gin pole; two (2) double blocks and one (1) snatch block all with necessary lashings; one (1) hoisting rope and autotruck, tractor, wagon or winch for hoisting power.

Erect gin pole and tie off the four guys spaced 90 degrees. Set the bottom of the gin pole on top of concrete foundation. Pull all guys taut with gin pole in a vertical position. Telescope the knocked down sections of the flagpole and balance over foundation with butt end of flagpole slightly heavy as shown in plan above. Lash hook of lower double block to flagpole about two feet above point of balance using three (3) or four (4) turns around flagpole and several turns around hook of block. Lash hook of snatch block to bottom of gin pole in a similar manner. Run hoisting rope thru snatch block and fasten to hoisting power. Hoist flagpole slowly and when in a vertical position lower in foundation hole. Plumb lower flagpole section using four (4) wooden wedges, climb flagpole and calk FIELD JOINTS per instructions above. Any slight lean in flagpole may be corrected by a strain on the halyards and calking on the opposite side first. Do not neglect the calking and calk hard. Field joints below point of balance should be lashed together with three (3) or four (4) wooden strips about six (6) feet long overlapping the joints to prevent pulling apart while hoisting.

DETAILS & INSTRUCTIONS for BUILDING CONCRETE FOUNDATIONS for LINGO SWAGED SECTIONAL FLAGPOLES

The method of building the concrete foundation is shown is the least expensive and best. It can be built before the flagpole arrives, it allows for proper plumb building of the flagpole and makes the flagpole ready for use immediately after erection.

Build a wood box form of dimensions shown at 'A' and 'B' to suit your particular flagpole (see table below). Use cheap boards and NAIL LIGHTLY using not larger than 4-penny nails. Lap the boards exactly as shown and nail wood cleats lightly to inside of form. Tack a piece of tin or light sheet metal over the bottom of form to prevent concrete from entering inside of form and to assure easy removal of form.



Excavate to a depth as shown at 'D' and to diameters as shown at 'E' and 'F'. Pour in concrete, footing for thickness of footing take difference between the dimensions 'D' and 'E' and 'F' and then set wood box form. Plumb the form and brace with four (4) braces to hold form in place while concrete is being poured. Pour concrete to within 2' or 3' from top of excavation and 48 hours after concrete is poured remove the cleats from box form and withdraw sides of the form. Set the flagpole in the foundation and wedge it plumb with four (4) wedges. Fill in space between the flagpole and foundation core with clean dry sand and tap the flagpole with light hammer blows to settle and pack the sand cap and withdrawing the pole.

TABLE of FOUNDATION DIMENSIONS for LINGO SWAGED SECTIONAL FLAGPOLES

LETTER	REMARKS	LIGHT-PATTERN-FLAGPOLES	HEAVY-PATTERN-FLAGPOLES	EX-HEAVY-PATTERN-FLAGPOLES
	HEIGHT ABOVE GRADE	17' 25" 33' 41" 49' 57" 65' 73" 80' 90" 100' 125"	20' 25" 30' 40" 50' 60' 70' 75' 80' 90" 100' 125"	25' 30' 35' 40' 47" 55" 60" 70' 77' 85" 90' 100'
	TOTAL LENGTH OF FLAGPOLE	20' 28" 37' 45" 54' 62" 71" 79' 87' 98" 108"	23' 28" 33" 44" 55" 66" 77' 82" 88' 99" 110' 137"	28' 33" 39' 45' 53' 61" 69' 77' 85' 93' 100' 110'
A	outside width of box form	5' 5 1/2" 6' 6" 7' 8" 9' 9" 10' 11" 12 1/2"	5' 6" 6 1/2" 7' 8" 9" 10' 11" 12 1/2" 14 1/2" 15 1/2"	6' 7" 8" 9" 10" 11" 12 1/2" 13 1/2" 14 1/2" 15 1/2" 17 1/2"
B	Length of box form	3' 3" 3' 9" 4' 3" 4' 9" 5' 3" 6' 3" 7' 3" 8' 3"	3' 3" 3' 9" 4' 3" 5' 3" 6' 3" 7' 3" 8' 3" 9' 3" 10' 3" 12' 3"	3' 9" 3' 9" 4' 3" 5' 3" 6' 3" 7' 3" 8' 3" 8' 3" 10' 3" 12' 3"
C	Flagpole set in Foundation	3' 0" 3' 6" 4' 0" 4' 6" 4' 6" 5' 0" 6' 0" 6' 0" 7' 0" 8' 0" 8' 0"	3' 6" 3' 6" 4' 0" 5' 0" 6' 0" 7' 6" 8' 0" 9' 0" 10' 0" 12' 0"	3' 6" 3' 6" 4' 0" 5' 0" 6' 0" 7' 0" 8' 0" 9' 0" 10' 0" 12' 0"
D	Depth of Excavation	3' 4" 3' 10" 4' 4" 4' 10" 5' 4" 6' 4" 6' 4" 7' 4" 8' 4" 8' 4"	3' 4" 3' 10" 4' 4" 5' 4" 6' 4" 7' 4" 10' 8" 4" 9' 4" 10' 4" 12' 4"	3' 10" 3' 10" 4' 4" 5' 4" 6' 4" 6' 4" 7' 4" 8' 4" 8' 6" 10' 6" 12' 6"
E	Dia of Excavation at bottom	2' 0" 2' 0" 2' 0" 2' 0" 2' 6" 2' 6" 2' 6" 2' 6" 2' 6" 2' 6" 2' 6" 2' 6"	2' 0" 2' 0" 2' 0" 2' 0" 2' 6" 2' 6" 2' 6" 2' 6" 2' 6" 2' 6" 2' 6" 2' 6"	2' 0" 2' 0" 2' 0" 2' 0" 2' 6" 2' 6" 2' 6" 2' 6" 2' 6" 2' 6" 2' 6" 2' 6"
F	Dia of Excavation at top	2' 0" 2' 0" 2' 0" 2' 0" 3' 0" 3' 0" 3' 0" 3' 0" 3' 6" 4' 0" 4' 0"	2' 0" 2' 0" 2' 0" 2' 0" 2' 6" 2' 6" 2' 6" 2' 6" 3' 0" 3' 6" 4' 0" 4' 0" 5' 0"	2' 6" 2' 6" 3' 0" 3' 0" 3' 6" 4' 0" 4' 0" 5' 0" 5' 6" 6' 0"

DRAWING  
NO. B-11

JOHN E. LINGO & SON, INC., FLAGPOLES IN STEEL & BRONZE  
CAMDEN, NEW JERSEY

SCALE  
NONE



124 ft. overall—Heavy Type Swaged Sectional Flagpole, 12 $\frac{3}{4}$ -in. butt by 2 $\frac{1}{8}$ -in. top

Smith Tower, San Antonio, Texas

Atlee B. and Robert M. Ayres, Architects

HEAVY TYPE  
SWAGED SECTIONAL COPPER BEARING TUBULAR STEEL FLAGPOLES  
for  
ROOF SETTING

In Heavy Type Flagpoles the diameters of the tubular sections and the exposed lengths are so proportioned that the flagpoles have a conservative bending resistance which makes them ideal for all kinds of installations. The "Life" of these flagpoles is indefinite if periodical care is taken of them after erection.

For locations near the sea coast we recommend these flagpoles to be galvanized the galvanizing being done by the hot process after fabrication at an extra cost.

NOTE NO1

Flagpoles of these heights are to be braced on the roof with either turnbuckle or telescope braces suitably anchored to suit type of roof construction specified, or flagpoles may pass thru the roof by means of a roof tube and fastened to the "Loft Floor" construction by a socket and plate well anchored.

The brace line is to be NOT LESS THAN 10% of the flagpole height above the roof and may be increased if so desired.

NOTE NO2

Flagpoles of these heights are to pass thru the roof by means of a roof tube and fastened to the "Loft Floor" construction by a socket and plate well anchored.

The height between the roof line and "Loft Floor" is to be NOT LESS THAN 10% of the flagpole height above the roof and may be increased if so desired.

Each flagpole painted one shop coat of Red Metal Primer  
 For fittings for these flagpoles see page 29, 30, 31 & 32

Prices shown below in table are all  
 F.O.B. cars Camden, New Jersey.

For detail specifications covering these  
 flagpoles see page 20 & 24

For details of "SHOP & FIELD JOINTS"  
 see page 6

Exposed height above roof etc., in feet 15

Top of Parapet, Roof or Brace Line

See Note No1 above

See Note No2 above

EXPOSED HEIGHT in FEET above Parapet, Roof or Brace Line	15	20	25	30	40	50	60	70	75	80	90	100
Outside Diameter-Top Section-Inches	2 $\frac{3}{8}$	2 $\frac{3}{8}$	2 $\frac{3}{8}$	2 $\frac{3}{8}$	2 $\frac{3}{8}$	2 $\frac{3}{8}$	2 $\frac{3}{8}$	2 $\frac{3}{8}$				
Outside Diameter-Butt Section-Inches	3 $\frac{1}{2}$	4	4 $\frac{1}{2}$	5	5 $\frac{3}{16}$	6 $\frac{3}{8}$	7 $\frac{3}{8}$	8 $\frac{3}{8}$	9 $\frac{3}{8}$	10 $\frac{3}{8}$	11 $\frac{3}{8}$	12 $\frac{3}{8}$
Shipping Weight ... Lbs.	100	159	245	325	500	680	1000	1375	1620	1750	2500	3000
Weight of additional Butt-per Foot	7.5	9.1	10.8	12.5	14.6	19	23.5	28.5	33.9	40.5	45.6	49.6
Price of additional Butt-per Foot	\$0.77	\$0.92	\$1.09	\$1.27	\$1.48	\$1.92	\$2.38	\$2.88	\$3.45	\$4.12	\$4.63	\$5.07
Number of K.D. Sections (Subject to reduction)	1	1	2	2	3	3	4	4	5	5	6	6
PRICE of PLAIN POLE-NO FITTINGS	\$20.00	\$31.80	\$49.00	\$65.00	\$100.00	\$136.00	\$200.00	\$275.00	\$334.00	\$350.00	\$500.00	\$600.00
Telegraphic Code	STICK	STAR	SAUCER	SEWER	STEER	SHUTTER	SILVER	SISTER	SOLDIER	SPEAR	SPIDER	SPUR



50 ft. overall—Swaged Sectional Flagpoles, 8 $\frac{5}{8}$ -in. butt by 2 $\frac{7}{8}$ -in. top

Ten of thirty-one installations at Convention Hall, Atlantic City, N. J.

Lockwood, Greene & Company, Architects

EXTRA HEAVY TYPE  
SWAGED SECTIONAL COPPER BEARING TUBULAR STEEL FLAGPOLES  
for  
ROOF SETTING

Extra Heavy Type Flagpoles are designed to meet the demands for a steel flagpole approaching in contour the wood flagpole. By the great number of reductions in the tubular sections the joints are almost invisible at comparatively short distances.

Being heavier than the Heavy Type we recommend them for locations where high wind stresses prevail. The "Life" of these flagpoles is indefinite if periodical care is taken of them after erection. For locations near the sea coast we recommend these flagpoles to be galvanized the galvanizing being done by the hot process after fabrication at an extra cost.

NOTE N°1

Flagpoles of these heights are to be braced on the roof with either turnbuckle or telescope braces suitably anchored to suit type of roof construction specified, or flagpoles may pass thru the roof by means of a roof tube and fastened to the "Loft Floor" construction by a socket and plate well anchored.

The brace line is to be NOT LESS THAN 10% of the flagpole height above the roof and may be increased if so desired.

NOTE N°2

Flagpoles of these heights are to pass thru the roof by means of a roof tube and fastened to the "Loft Floor" construction by a socket and plate well anchored.

The height between the roof line and "Loft Floor" is to be NOT LESS THAN 10% of the flagpole height above the roof and may be increased if so desired.

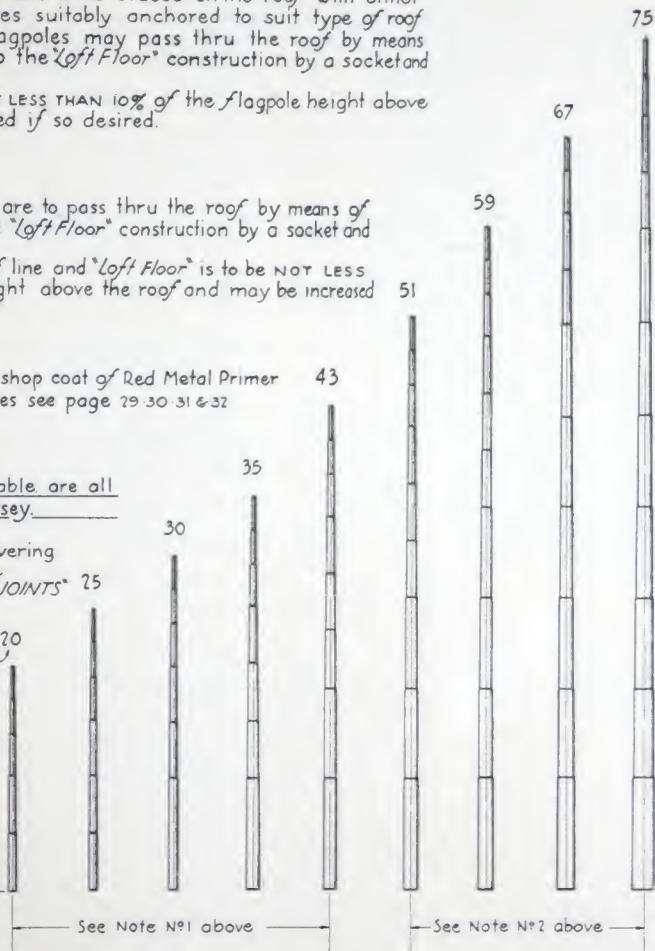
Each flagpole painted one shop coat of Red Metal Primer  
 For fittings for these flagpoles see page 29, 30, 31 & 32

Prices shown below in table are all  
 F.O.B. cars Camden New Jersey.

For detail specifications covering  
 these flagpoles see page 20 & 24.  
 For details of "SHOP & FIELD JOINTS" see page 6

Exposed height above roof etc. in Feet:

Top of Parapet Roof for Brace Line



EXPOSED HEIGHT in FEET above Parapet Roof or Brace Line	20	25	30	35	43	51	59	67	75		
Outside Diameter Top Section-Inches	2 $\frac{7}{8}$	2 $\frac{7}{8}$	3 $\frac{1}{8}$	4	4						
Outside Diameter Butt Section-Inches	5	5 $\frac{1}{8}$	6 $\frac{1}{8}$	7 $\frac{1}{8}$	8 $\frac{1}{8}$	9 $\frac{1}{8}$	10 $\frac{1}{4}$	11 $\frac{1}{4}$	12 $\frac{1}{4}$		
Shipping Weight .. Lbs.	244	341	500	668	953	1392	1796	2465	2970		
Weight of additional Butt - per Foot	12.5	14.6	19.	23.5	28.6	33.9	40.5	45.6	49.6		
Price of additional Butt - per Foot	\$ 1.27	\$ 1.48	\$ 1.92	\$ 2.38	\$ 2.88	\$ 3.45	\$ 4.12	\$ 4.63	\$ 5.07		
Number of KD Sections (Subject to reduction)	1	2	2	2	3	4	4	5	5		
PRICE of PLAIN POLE-NO FITTINGS	\$48.80	\$68.20	\$100.00	\$133.60	\$190.60	\$278.40	\$359.20	\$493.00	\$594.00		
Telegraphic Code	EAR	EASTER	ELDER	EMPEROR	ENGRAVER	ERR	EMBER	EAGER	ELIXIR		

## SPECIFICATIONS FOR SWAGED SECTIONAL COPPER BEARING TUBULAR STEEL FLAGPOLES FOR ROOF SETTING, ANCHORED TO ROOF WITH BRACES—WITH STANDARD FITTINGS

Furnish and erect a swaged sectional copper bearing tubular steel flagpole complete with all standard fittings as listed below, made by John E. Lingo & Son, Inc., Camden, New Jersey. Flagpole to be roof set (Heavy) (Extra Heavy) type with.....feet exposed height above roof level with.....inches butt diameter. After erection, apply over the shop coat of red metal primer two finishing coats of white lead and oil.

**Flagpole Construction**—Flagpole to be fabricated in sections of standard full weight copper bearing tubular steel pipe of diameters, thicknesses, lengths and joints as detailed by John E. Lingo & Son, Inc., for this type flagpole. Shop joints to be swaged, shrunk and calked steel to steel. Field joints to be calked steel to steel, airtight and watertight to prevent interior corrosion and deterioration. All joints to be constructed without the use of bolts, pins, rivets, screw couplings or lead calking.

**Ball**—To be size recommended by John E. Lingo & Son, Inc., for this type flagpole, and to be constructed of 20-oz. copper, covered with Hastings XX gold leaf over three coats of galvanum and one coat of waterproof size. Ball to be mounted on a  $\frac{3}{4}$ -in. seamless brass tube and slipped over a  $\frac{5}{8}$ -in. diameter galvanized rod attached to truck.

**Truck**—To be "Lingo" standard ball bearing revolving truck, cast iron body galvanized, revolving on manganese bronze spindle, with top and bottom ball races with twenty-six  $\frac{1}{4}$ -in. diameter bronze balls each. Truck to be fitted with two  $2\frac{3}{8}$ -in. diameter bronze roller bushed sheaves and  $\frac{3}{8}$ -in. diameter bronze pins.

**Truck**—(For Extra Heavy Type Flagpoles with 4-in. top diameter only)—To be "Lingo" extra heavy ball bearing revolving truck, cast iron body galvanized, revolving on manganese bronze spindle, with bottom ball race with thirty  $\frac{1}{4}$ -in. diameter manganese bronze balls. Truck to be fitted with two 4-in. diameter bronze sheaves with bronze roller bearings and  $\frac{1}{2}$ -in. Monel Metal pins.

**Halyards**—Provide two sets of  $\frac{3}{8}$ -in. diameter U. S. standard manila bolt rope halyards with bronze swivel snaps at each end for securing to flag.

**Cleats**—Provide two 9-in. cast iron galvanized cleats to be tapped to flagpole with  $\frac{5}{16}$ -in. galvanized flat head stove bolts.

**Flash Collar**—Provide bronze flash collar, place on the flagpole at the height indicated and calk metal to metal after roof flashing has been installed by the Roofing Contractor.

**Pole Socket and Plate**—Provide cast iron pole socket and steel plate of proper size to suit flagpole and secure with a bolt and bearing plate, fastened to (concrete) (wood) (steel) construction as in-

dicated on drawing No. B-9 of John E. Lingo & Son, Inc.

**Braces**—Provide (tubular turnbuckle) (adjustable telescope) braces of proper number, length and sizes as detailed on drawing No. B-9 of John E. Lingo & Son, Inc., for this type flagpole and complete with brace collar and brace anchors. Braces to be made of copper bearing tubular steel. Brace collar to be calked to flagpole after erection at the proper height to rigidly support the flagpole. All the necessary drilling of (steel) (wood) beams (or placing of anchors in concrete) to be located in accordance with detail drawings to be submitted to the Architect for approval by John E. Lingo & Son, Inc.

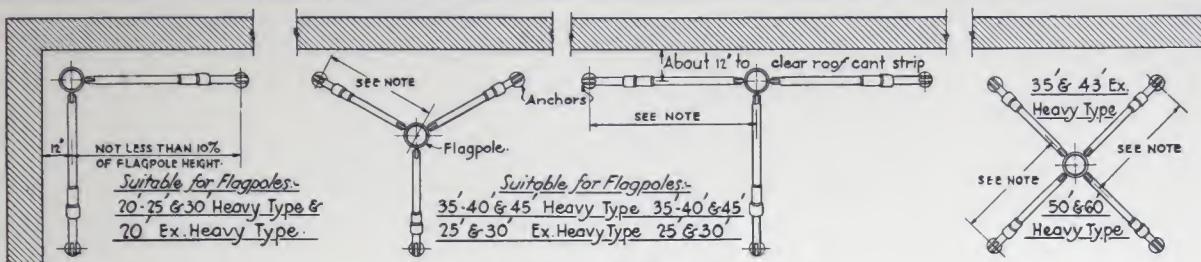
## DISPENSABLE EXTRAS AND SUBSTITUTES

**Weathervane or Finial**—Stock design Weathervanes and Finials are furnished at extra cost. If a Weathervane or Finial is desired for the flagpole, in lieu of the Ball, the Ball mentioned in the above specification should be omitted. In order to save unnecessary expense we suggest that Architects select one of our stock design Weathervanes or Finials before designing a special vane or finial. (See page 31.)

**Bronze Trucks and Bronze Cleats**—In lieu of the cast iron galvanized trucks and cleats mentioned in the above specification, Bronze Trucks and Bronze Cleats are furnished at extra cost. (See pages 29 and 30.)

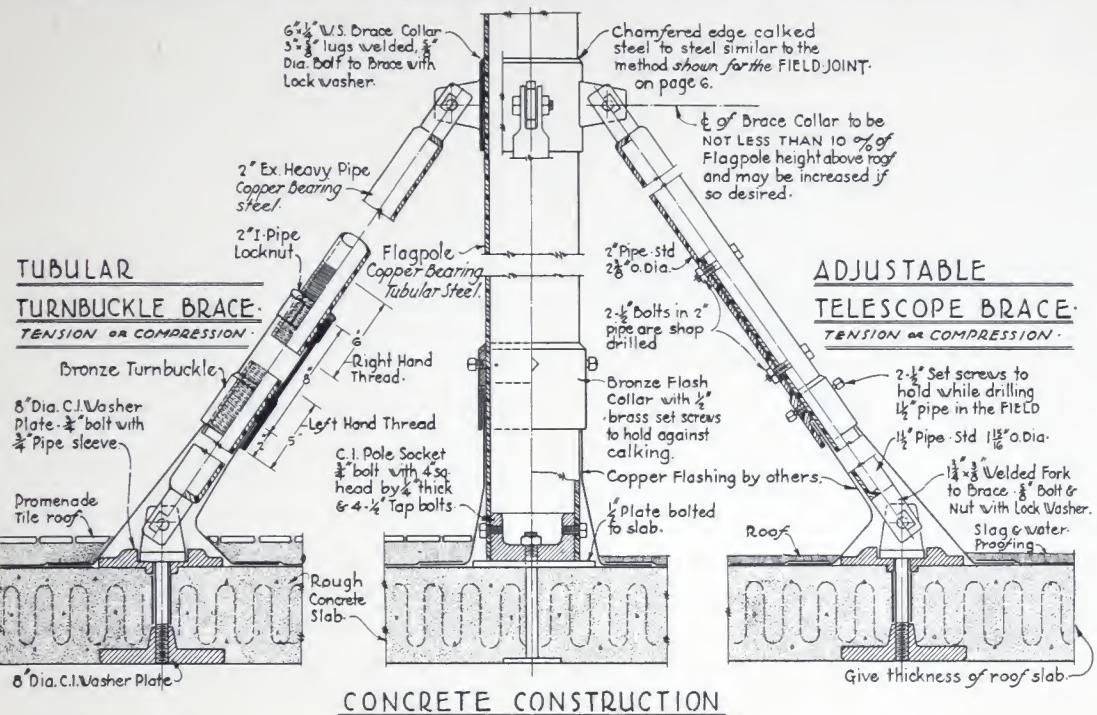
**Cotton Braided Halyards**—Silver Lake A No. 10 cotton braided halyards are furnished at extra cost in lieu of the U. S. standard manila bolt rope halyards mentioned in the above specifications. (See page 29.)

**Tension Braces**—Round steel tension braces are occasionally used in lieu of the superior Tubular Turnbuckle and Adjustable Telescope Braces mentioned in the above specification. Complete details covering construction, sizes, number required, etc., of Tension Braces are outlined on pages 22 and 23. Tension Braces are usually substituted when sufficient money is not available for purchasing Tubular Turnbuckle or Adjustable Telescope Braces.

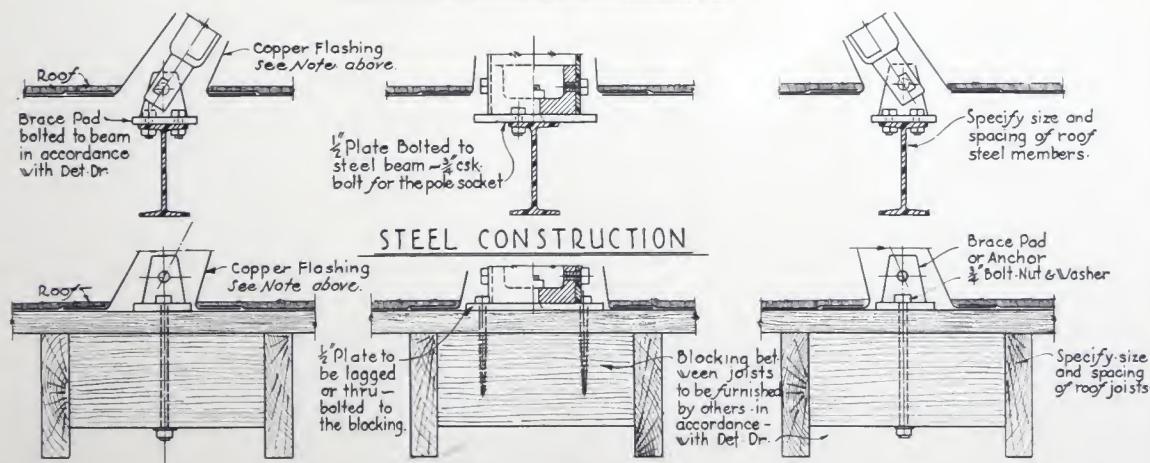


PLAN VIEWS

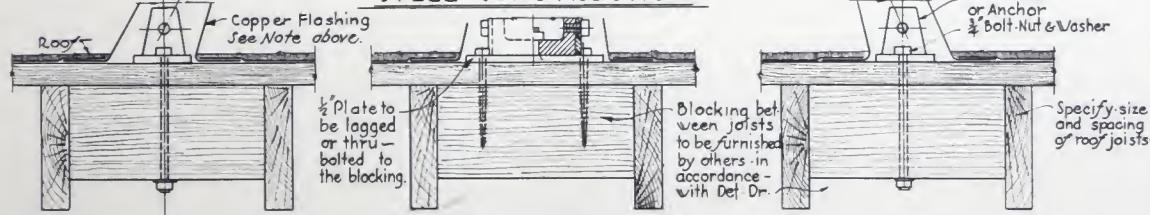
SHOWING TYPICAL ARR'GT. for BRACING FLAGPOLES of VARIOUS HEIGHTS.



CONCRETE CONSTRUCTION



STEEL CONSTRUCTION



WOOD CONSTRUCTION

TYPICAL DETAIL ARR'GT. of FLAGPOLES ABOVE ROOFS.

DRAWING  
NO-B-9.

JOHN E. LINGO & SON, INC., FLAGPOLES - STEEL & BRONZE  
CAMDEN, NEW JERSEY

SCALE  
1' = 1 FOOT

## BRACES FOR ROOF SET FLAGPOLES

(See pages 21, 23 and 32)

Braces for roof set flagpoles should be used when it is impossible to step the flagpole through the roof at least ten per cent of the exposed height above the roof. Roof set flagpoles with exposed heights greater than 60 ft. or larger than 8 $\frac{5}{8}$ -in. butt diameter should not be braced but stepped through the roof to loft floor as detailed in drawing No. B-10 on page 25.

Three different designs of braces are available:

**Tubular Turnbuckle.** (See page 32 and drawing No. B-9 on page 21.)

**Adjustable Telescope.** (See page 32 and drawing No. B-9 on page 21.)

**Tension.** (See page 32 and drawing No. B-8 on page 23.)

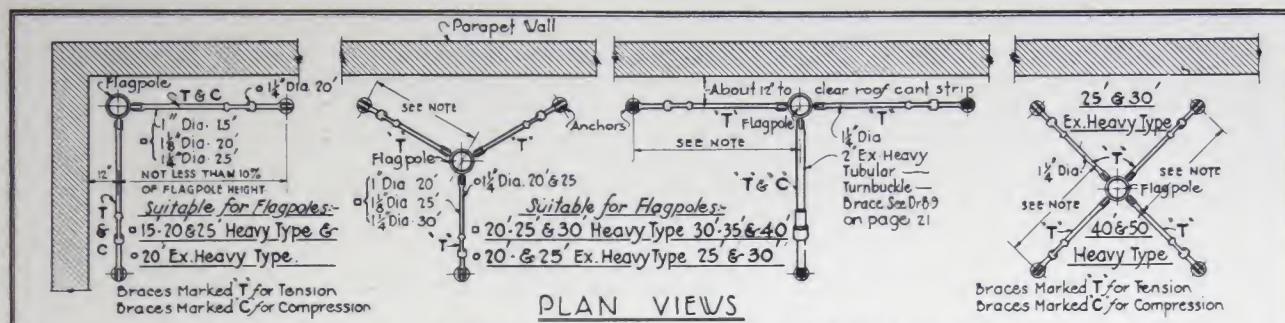
In selecting braces determine whether they will be in tension (T) or in compression (C) or in both (T & C) as indicated in the plan views of bracing shown on page 23. The Tubular Turnbuckle and Adjustable Telescope braces (see page 21) may be used for both tension and compression, whereas the Tension braces (see page 23) may be used for tension only.

Tubular Turnbuckle braces are the most serviceable and best for bracing roof set flagpoles. Adjustable Telescope braces are particularly suitable when the exact length of braces is difficult to predetermine. Tension braces should be used only when sufficient money is not available to purchase the superior Tubular Turnbuckle or Adjustable Telescope braces.

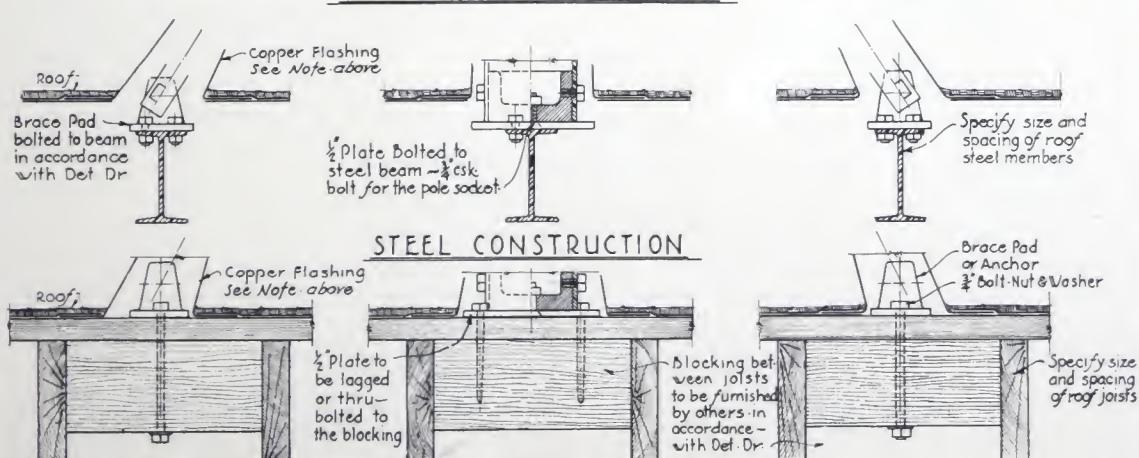
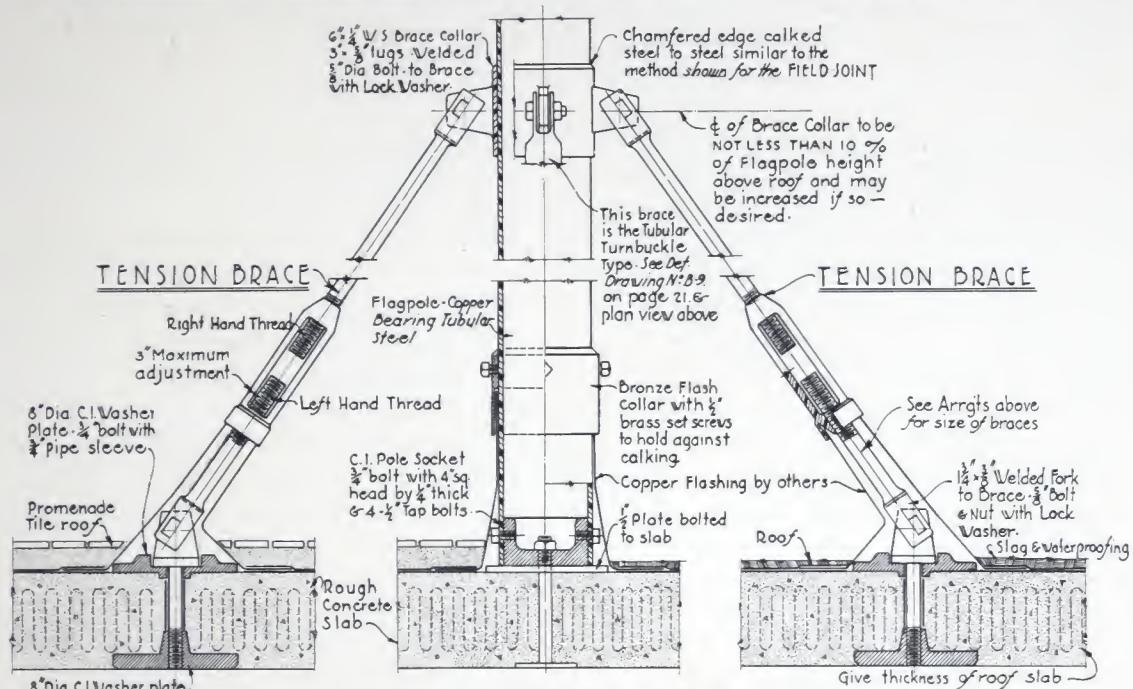
Drawing No. B-9, on page 21, shows four plan views of typical arrangements for bracing flagpoles of various heights, using the Tubular Turnbuckle or Adjustable Telescope braces. Plan No. 1, using two braces, is suitable for 20', 25' and 30' Heavy Type flagpoles (see page 17) or 20' Extra Heavy Type flagpoles (see page 19). Plans No. 2 and No. 3, using three braces, are suitable for 35', 40' and 45' Heavy Type flagpoles or 25' and 30' Extra Heavy Type flagpoles. Plan No. 4, using four braces, is suitable for 50'

and 60' Heavy Type flagpoles or 35' and 43' Extra Heavy Type flagpoles. Adjustable Telescope braces are furnished in three weights: 2" x 1 $\frac{1}{2}$ ", 2 $\frac{1}{2}$ " x 2" and 3" x 2 $\frac{1}{2}$ ". The 2" x 1 $\frac{1}{2}$ " weight is suitable for flagpoles with lengths above roof level up to 40'; the 2 $\frac{1}{2}$ " x 2" weight for flagpoles with lengths above roof level from 40' to 50' and the 3" x 2 $\frac{1}{2}$ " weight for flagpoles with lengths above roof level from 50' to 60'. Tubular Turnbuckle braces are furnished in one weight only: 2", which is suitable for flagpoles with lengths above roof level up to 60'.

Drawing No. B-8, on page 23, shows four plan views of typical arrangements for bracing flagpoles of various heights, using the Tension braces. Plan No. 1, using two braces, is suitable for 15', 20' and 25' Heavy Type flagpoles (see page 17) or 20' Extra Heavy Type flagpoles (see page 19). Plan No. 2, using three braces, is suitable for 20', 25' and 30' Heavy Type flagpoles or 20' and 25' Extra Heavy Type flagpoles. Plan No. 3, using two Tension braces and one Tubular Turnbuckle brace, is suitable for 30', 35' and 40' Heavy Type flagpoles or 25' and 30' Extra Heavy Type flagpoles. Plan No. 4, using four Tension braces, is suitable for 40' and 50' Heavy Type flagpoles or 25' and 30' Extra Heavy Type flagpoles. Under Plan No. 1 a 15' Heavy Type flagpole requires two 1" diameter Tension braces, a 20' Heavy Type flagpole two 1 $\frac{1}{8}$ " diameter Tension braces and a 25' Heavy Type flagpole or a 20' Extra Heavy Type flagpole two 1 $\frac{1}{4}$ " Tension braces. Under Plan No. 2 a 20' Heavy Type flagpole requires three 1" diameter Tension braces, a 25' Heavy Type flagpole three 1 $\frac{1}{8}$ " diameter Tension braces and a 30' Heavy Type or a 20' and 25' Extra Heavy Type flagpole each require three 1 $\frac{1}{4}$ " diameter Tension braces. Under Plan No. 3 a 30', 35' and 40' Heavy Type flagpole, as well as a 25' and 30' Extra Heavy Type flagpole, each require three braces, two being 1 $\frac{1}{4}$ " Tension braces and one Tubular Turnbuckle brace. Under Plan No. 4 a 40' and 50' Heavy Type flagpole, as well as a 25' and 30' Extra Heavy Type flagpole, each require four 1 $\frac{1}{4}$ " Tension braces.



SHOWING TYPICAL ARRGT'S for BRACING FLAGPOLES of VARIOUS HEIGHTS.



WOOD CONSTRUCTION

TYPICAL DETAIL ARRGT. of FLAGPOLES ABOVE ROOFS

DRAWING  
NO-B-8

JOHN E. LINGO & SON, INC, FLAGPOLES in STEEL & BRONZE  
CAMDEN, NEW JERSEY

SCALE  
1"=1FOOT

## SPECIFICATIONS FOR SWAGED SECTIONAL COPPER BEARING TUBULAR STEEL FLAGPOLES FOR ROOF SETTING, WITHOUT BRACES AND PENETRATING ROOF TO LOFT FLOOR—WITH STANDARD FITTINGS

Furnish and erect a swaged sectional copper bearing tubular steel flagpole complete with all standard fittings as listed below, made by John E. Lingo & Son, Inc., Camden, New Jersey. Flagpole to be roof set (Heavy) (Extra Heavy) type.....feet above roof plus a distance of.....feet to loft floor; flagpole butt diameter to be.....inches. After erection, apply over the shop coat of red metal primer two finishing coats of white lead and oil.

**Flagpole Construction**—Flagpole to be fabricated in sections of standard full weight copper bearing tubular steel pipe of diameters, thicknesses, lengths and joints as detailed by John E. Lingo & Son, Inc., for this type flagpole. Shop joints to be swaged, shrunk and calked steel to steel. Field joints to be calked steel to steel, airtight and watertight to prevent interior corrosion and deterioration. All joints to be constructed without the use of bolts, pins, rivets, screw couplings or lead calking.

**Ball**—To be of size recommended by John E. Lingo & Son, Inc., for this type flagpole and to be constructed of 20-oz. copper, covered with Hastings XX gold leaf over three coats of galvanum and one coat of waterproof size. Ball to be mounted on a  $\frac{3}{4}$ -in. seamless brass tube and slipped over a  $\frac{5}{8}$ -in. diameter galvanized rod attached to truck.

**Truck**—To be "Lingo" standard ball bearing revolving truck, cast iron body galvanized, revolving on manganese bronze spindle, with top and bottom ball races with twenty-six  $\frac{1}{4}$ -in. diameter bronze balls each. Truck to be fitted with two  $2\frac{3}{8}$ -in. diameter bronze roller bushed sheaves and  $\frac{3}{8}$ -in. diameter bronze pins.

**Truck**—(For Extra Heavy Type Flagpoles with 4-in. top diameter only)—To be "Lingo" extra heavy ball bearing revolving truck, cast iron body galvanized, revolving on manganese bronze spindle, with bottom ball race with thirty  $\frac{1}{4}$ -in. diameter manganese bronze balls. Truck to be fitted with two 4-in. diameter bronze sheaves with bronze roller bearings and  $\frac{1}{2}$ -in. Monel Metal pins.

**Halyards**—Provide two sets of  $\frac{3}{8}$ -in. diameter U. S. standard manila bolt rope halyards with bronze swivel snaps at each end for securing to flag.

**Cleats**—Provide two 9-in. cast iron galvanized cleats to be tapped to flagpole with  $\frac{5}{16}$ -in. galvanized flat head stove bolts.

**Flash Collar**—Provide bronze flash collar, place

on the flagpole at the height indicated and calk metal to metal after roof flashing has been installed by the Roofing Contractor.

**Roof Tube**—(if concrete slab) or **Guide Flange**—(if steel or wood roof)—To be provided of proper size to suit flagpole butt diameter; to be fastened to roof construction and calked steel to steel before roof flashing has been installed by the Roofing Contractor.

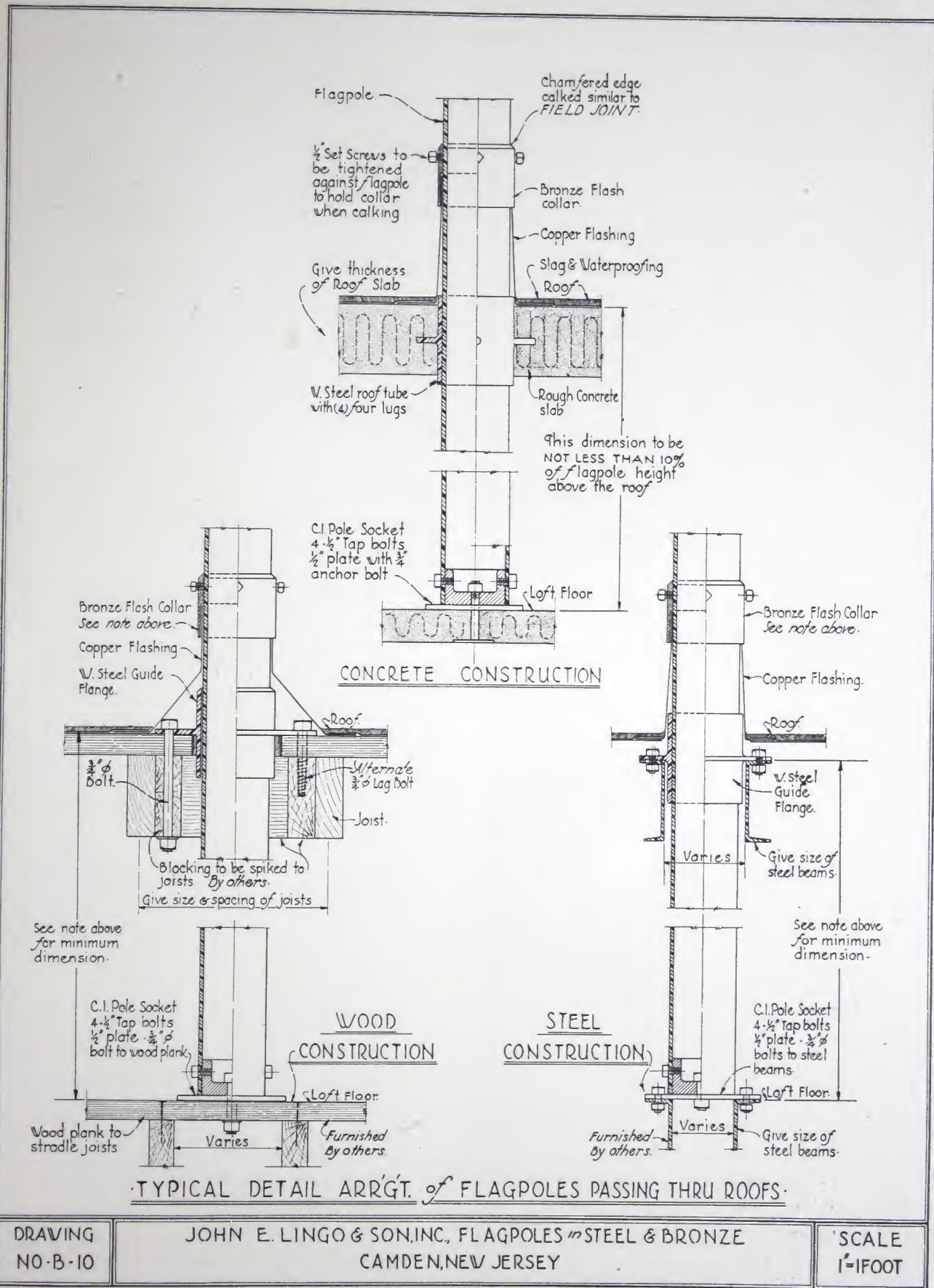
**Pole Socket and Plate**—Provide cast iron pole socket and steel plate of proper size to suit flagpole and secure with a bolt and bearing plate, fastened to (concrete) (wood) (steel) construction as indicated on drawing No. B-10 of John E. Lingo & Son, Inc. Detail drawings covering the flagpole installation are to be submitted to the Architect for approval by John E. Lingo & Son, Inc.

## DISPENSABLE EXTRAS AND SUBSTITUTES

**Weathervanes or Finial**—Stock design Weathervanes and Finials are furnished at extra cost. If a Weathervane or Finial is desired for the flagpole, in lieu of the Ball, the Ball mentioned in the above specification should be omitted. In order to save unnecessary expense we suggest that Architects select one of our stock design Weathervanes or Finials before designing a special vane or finial. (See page 31.)

**Bronze Trucks and Bronze Cleats**—In lieu of the cast iron galvanized trucks and cleats mentioned in the above specification, Bronze Trucks and Bronze Cleats are furnished at extra cost. (See pages 29 and 30.)

**Cotton Braided Halyards**—Silver Lake A No. 10 cotton braided halyards are furnished at extra cost in lieu of the U. S. standard manila bolt rope halyards mentioned in the above specification. (See page 29.)



## HOW TO FIGURE FLAGPOLES FOR ROOF SETTING

All fittings for roof set flagpoles are furnished at extra cost and consist of gold leafed copper ball, standard or extra heavy ball bearing revolving truck, halyards, cleats, braces with brace collar and anchors, flash collar, pole socket with plate, roof tube, guide flange, etc. Typical examples for figuring costs of roof set flagpoles are given below.

### E X A M P L E A

A Swaged Sectional Heavy Type flagpole, 40' 0" exposed height above roof and stepped 8' 0" below roof line to loft floor, making an overall length of 48' 0", should be figured as follows:

40' 0" Swaged Sectional Heavy Type flagpole, 5 $\frac{1}{8}$ " O. D. at the butt by 2 $\frac{1}{8}$ " O. D. at the top (See price list on page 17) .....	\$100.00
8' 0" of additional butt 5 $\frac{1}{8}$ " O. D. (8' between roof and loft floor) @ 1.48 .....	11.84
8" gold leafed copper ball (See price list on page 30) .....	7.00
Standard ball bearing revolving truck (See price list on page 30) .....	10.00
Two manila halyards, 80' each or 160' (four times length of flagpole above roof) @ .04 per foot (See price list on page 29) .....	6.40
Two 9" galvanized cleats @ .75 (See price list on page 29) .....	1.50
Roof tube with flash collar (See price list on page 32) .....	18.50
Pole Socket (See price list on page 32) .....	1.25
Steel Plate for Pole Socket (See price list on page 32) .....	2.50
Price of flagpole and fittings .....	\$158.99

Price of flagpole and fittings .....

### E X A M P L E B

A Swaged Sectional Heavy Type flagpole, 40' 0" exposed height above a 5' 0" high parapet wall and stepped 8' 0" below roof line to loft floor, making an overall length of 53' 0", should be figured as follows:

40' 0" Swaged Sectional Heavy Type flagpole, 5 $\frac{1}{8}$ " O. D. at the butt by 2 $\frac{1}{8}$ " O. D. at the top (See price list on page 17) .....	\$100.00
13' 0" of additional butt 5 $\frac{1}{8}$ " O. D. (8' 0" between roof and loft floor plus 5' 0" parapet wall) @ 1.48 .....	19.24
8" gold leafed copper ball (See price list on page 30) .....	7.00
Standard ball bearing revolving truck (See price list on page 30) .....	10.00
Two manila halyards, 90' each or 180' (four times length of flagpole above roof) @ .04 per foot (See price list on page 29) .....	7.20
Two 9" galvanized cleats @ .75 (See price list on page 29) .....	1.50
Roof tube with flash collar (See price list on page 32) .....	18.50
Pole Socket (See price list on page 32) .....	1.25
Steel Plate for Pole Socket (See price list on page 32) .....	2.50
Price of flagpole and fittings .....	\$167.19

Price of flagpole and fittings .....

### E X A M P L E C

A Swaged Sectional Heavy Type flagpole, 40' 0" exposed height above a 5' 0" high parapet wall, making an overall length of 45' 0", setting directly on roof with three tubular turnbuckle braces, should be figured as follows:

40' 0" Swaged Sectional Heavy Type flagpole, 5 $\frac{1}{8}$ " O. D. at the butt by 2 $\frac{1}{8}$ " O. D. at the top (See price list on page 17) .....	\$100.00
5' 0" of additional butt 5 $\frac{1}{8}$ " O. D. (height of parapet wall above roof line) @ 1.48 .....	7.40
8" gold leafed copper ball (See price list on page 30) .....	7.00
Standard ball bearing revolving truck (See price list on page 30) .....	10.00
Two manila halyards, 90' each or 180' (four times length of flagpole above roof) @ .04 per foot (See price list on page 29) .....	7.20
Two 9" galvanized cleats @ .75 (See price list on page 29) .....	1.50
One bronze flash collar (See price list on page 32) .....	11.00
Pole Socket (See price list on page 32) .....	1.25
Steel Plate for Pole Socket (See price list on page 32) .....	2.50
Three tubular turnbuckle braces with collar and anchors @ 23.00 (See price list on page 32) .....	69.00
Price of flagpole and fittings .....	\$216.85

In order to facilitate prompt shipment and save correspondence, kindly send us at initial writing the following:

State type of roof construction, whether concrete, wood or steel.

Give size of supporting members, if roof is wood or steel.

Give thickness of slab, if roof is concrete.

Send detail sheet showing roof construction, if possible.

PARTIAL LIST OF INSTALLATIONS OF "LINGO"  
SWAGED SECTIONAL FLAGPOLES

MISCELLANEOUS

U. S. Veterans' Bureau Hospital, Legion, Texas  
U. S. Veterans' Bureau Hospital, Northport, Long Island  
U. S. Veterans' Bureau Hospital, Battle Creek, Michigan  
U. S. Army Barracks, Samoa  
U. S. Marine Barracks, Managua, Nicaragua  
U. S. Marine Barracks, Tientsin, China  
U. S. Marine Hospital, Baltimore, Maryland  
U. S. Quarantine Station, Baltimore, Maryland  
U. S. Immigration Station, Gloucester, New Jersey  
U. S. Air Station, Middletown, Pennsylvania  
U. S. Navy Yard, Charleston, South Carolina  
U. S. Navy Buildings, Washington, District of Columbia  
U. S. Custom House, San Juan, Porto Rico  
U. S. Submarine Base, New London, Connecticut  
U. S. Post Office, Neenah, Wisconsin  
U. S. Post Office, Mineral Wells, Texas  
U. S. Post Office, Newton, Iowa  
U. S. Post Office, Lexington, Kentucky  
U. S. Post Office, Phillipi, West Virginia  
U. S. Post Office, Tuscon, Arizona  
U. S. Post Office, Columbia, Missouri  
U. S. Post Office, Conway, Arkansas  
U. S. Post Office, St. Petersburg, Florida  
U. S. Post Office, Akron, Ohio  
U. S. Post Office, Cody, Wyoming  
U. S. Post Office, Saranac Lake, New York  
U. S. Post Office, Woodbury, New Jersey  
U. S. Post Office, Durango, Colorado  
U. S. Post Office, Brookville, Indiana  
U. S. Post Office, St. Johnsbury, Vermont  
U. S. Post Office, Amherst, Massachusetts  
U. S. Post Office, Belleville, Illinois  
U. S. Post Office, Rochester, Minnesota  
U. S. Post Office, Vicksburg, Mississippi  
U. S. Post Office, Chamberlain, South Dakota  
U. S. Post Office, Sandy Point, Idaho  
U. S. Post Office, Harriman, Tennessee  
U. S. Post Office, Lancaster, Pennsylvania  
National Cemetery, Salisbury, Maryland  
National Cemetery, Antietam, Maryland  
National Cemetery, Balls Bluff, Virginia  
National Cemetery, Annapolis, Maryland  
National Cemetery, Wilmington, North Carolina  
National Military Home, Dayton, Ohio  
National Military Park, Shiloh Battlefield, Tennessee  
National Military Park, Gettysburg Battlefield, Pennsylvania  
Harding Memorial, Marion, Ohio  
Valley Forge Memorial Chapel, Valley Forge, Pennsylvania  
Washington Crossing Park, Washington Crossing, Penna.  
Roxbury Court House, Boston, Massachusetts  
Rusk County Court House, Henderson, Texas  
Davies County Court House, Washington, Indiana  
Dade County Court House, Miami, Florida  
Ochiltree County Court House, Perryton, Texas  
Chatham County Court House, Atlanta, Georgia  
County Court House, Milwaukee, Wisconsin  
City Hall, Atlanta, Georgia  
City Hall, Coral Gables, Florida  
City Hall, Milwaukee, Wisconsin  
Ohio Wesleyan Stadium, Delaware, Ohio  
University of Alabama Stadium, Tuscaloosa, Alabama  
Municipal Fountain, Sanford, Florida  
Kansas State Agricultural College, Lawrence, Kansas  
Delaware State Colored College, Dover, Delaware  
Washburn College, Topeka, Kansas  
Beacon College, Wilmington, Delaware

Font Bonne College, St. Louis, Missouri  
Luther College, Decorah, Iowa  
Ohio State University, Columbus, Ohio  
Concordia Teachers College, River Forest, Illinois  
University of Michigan, Ann Arbor, Michigan  
Institute for Women, Alderson, West Virginia  
Western State Penitentiary, Pittsburgh, Pennsylvania  
New York City Reformatory, New Hampton, New York  
State School of Mines, Rapid City, South Dakota  
State Laboratory, Raleigh, North Carolina  
Strong Memorial Hospital, Rochester, New York  
Mayo Clinic, Rochester, Minnesota  
Houston National Bank, Houston, Texas  
Kanawha Banking & Trust Building, Charleston, W. Va.  
American Trust & Banking Building, Chattanooga, Tennessee  
American Exchange Bank Building, Dallas, Texas  
Citizens & Southern Bank, Charleston, South Carolina  
Canal Bank, New Orleans, Louisiana  
Colonial National Bank, Roanoke, Virginia  
Central Trust Building, Boston, Massachusetts  
Home Savings Bank, Albany, New York  
First National Bank & Trust Building, Marquette, Michigan  
Guaranty Bank & Trust Building, Bridgeport, Connecticut  
First National Bank Building, Cold Water, Michigan  
First National Bank Building, Bay Shore, Long Island  
Masonic Temple, Freeport, Illinois  
Masonic Temple, Salt Lake City, Utah  
Masonic Temple, Evanston, Illinois  
Y. M. C. A. Buildings, Chicago, Illinois  
Y. M. C. A. Building, Denver, Colorado  
Y. M. C. A. Building, New York, New York  
Y. M. C. A. Building, Bridgeport, Connecticut  
Moose Home, Grand Rapids, Michigan  
Salvation Army Home, Grand Rapids, Michigan  
Sears, Roebuck Stores, Memphis, Tennessee, and Atlanta, Georgia  
Sears, Roebuck Stores, Detroit, Michigan, and St. Louis, Missouri  
Sears, Roebuck Stores, Grand Rapids, Michigan, Syracuse and Buffalo, New York  
Cromer-Cassel Store, Miami, Florida  
Young-Quinlan Store, Minneapolis, Minnesota  
First National Stores, Somerville, Massachusetts  
Pennsylvania R. R. Stores, Washington, Dist. of Columbia  
Security Benefit Hospital, Topeka, Kansas  
Insurance Company of North America Building, Philadelphia, Pennsylvania  
Mutual Life Insurance Building, Baltimore, Maryland  
Arlington Hotel, Hot Springs, Arkansas  
Seacrest Hotel, Milwaukee, Wisconsin  
Jung Hotel, New Orleans, Louisiana  
Henry Clay Hotel, West Point, Mississippi  
Forrest Hotel, Hattiesburg, Mississippi  
Queen City Club, Cincinnati, Ohio  
Union Station, Cleveland, Ohio  
Madison Square Garden, New York, New York  
Medical Arts Building, Baltimore, Maryland  
Swimming Pool, Davis Islands, Florida  
Virginia Public Service Building, Alexandria, Virginia  
Ellicott Square Building, Buffalo, New York  
Olds Office Building, Lansing, Michigan  
United Office Building, Buffalo, New York  
Kress Building, Fort Myers, Florida  
James Hardie Building, Sydney, Australia  
Thomson-McKinnon Building, Miami Beach, Florida

PUBLIC SCHOOLS

New York, N. Y.  
Washington, D. C.  
Wilmington, Del.  
Miami, Fla.  
Duluth, Minn.  
Racine, Wis.

Huntington, W. Va.  
Green Bay, Wis.  
Erie, Pa.  
Bridgeport, Conn.  
Philadelphia, Pa.  
Seattle, Wash.

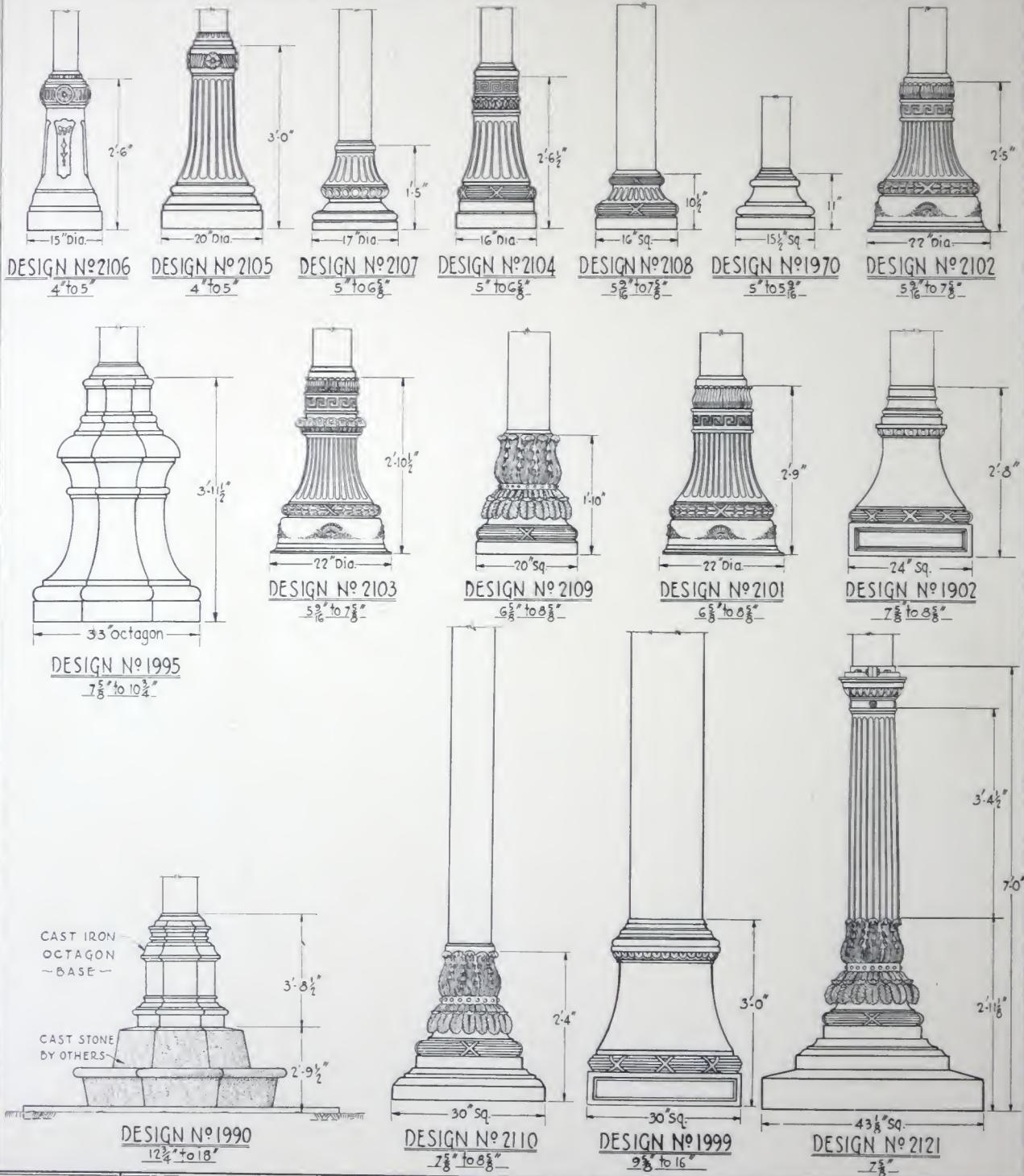
Buffalo, N. Y.  
Cleveland, Ohio  
Tulsa, Okla.  
Syracuse, N. Y.  
Tampa, Fla.  
Stamford, Conn.

Beaumont, Tex.  
Atlantic City, N. J.  
Cincinnati, Ohio  
Chattanooga, Tenn.  
Richmond, Va.  
Lexington, Ky.

Pittsburgh, Pa.  
Greensboro, N. C.  
Fort Lauderdale, Fla.  
Middletown, N. Y.  
Columbus, Ohio  
Muskegon, Mich.

• ORNAMENTAL CAST IRON BASES *of* STOCK DESIGN:

We carry in stock this complete line of ornamental cast iron flagpole bases, painted or galvanized. A ring collar is cast separate and furnished with the base to make a proper joint between the flagpole and the collar, for hot lead calking. Each base fits certain flagpoles only the butt diameters of which are shown under each base. Before finally specifying one of these bases for a certain flagpole be sure to ascertain whether the butt diameter of the flagpole will fit the base selected. Prices of bases are shown on page 29.



DRAWING  
NO. B-6

JOHN E LINGO & SON, INC., FLAGPOLES IN STEEL & BRONZE  
CAMDEN, NEW JERSEY

NO  
SCALE

ORNAMENTAL CAST IRON BASES

We carry in stock the ornamental cast iron bases shown on page 28, which are furnished either painted bronze green or galvanized by the hot dipped process. Each base fits certain butt diameter flagpoles only, a list of these butt diameters appearing opposite each design number below.

Design Nos.	For Flagpoles with Outside Diameters	Painted	Prices	Galvanized	Painted	Telegraphic Code	Galvanized
1902	7 $\frac{5}{8}$ ", 8 $\frac{5}{8}$ "	\$100.00		\$115.00	Poppy	Pygmy	
1970	5", 5 $\frac{1}{16}$ "	45.00		55.00	Pagoda	Pageant	
1990	12 $\frac{3}{4}$ ", 14", 15", 16", 18"	300.00		350.00	Prop	Peggy	
1995	7 $\frac{5}{8}$ ", 8 $\frac{5}{8}$ ", 9 $\frac{5}{8}$ ", 10 $\frac{3}{4}$ "	200.00		240.00	Pepsin	Pidgeon	
1999	9 $\frac{5}{8}$ ", 10 $\frac{3}{4}$ ", 11 $\frac{3}{4}$ ", 12 $\frac{3}{4}$ ", 14", 15", 16"	200.00		240.00	Poplar	Puglist	
2101	6 $\frac{5}{8}$ ", 7 $\frac{5}{8}$ ", 8 $\frac{5}{8}$ "	125.00		137.00	Barber	Bag	
2102	5 $\frac{1}{16}$ ", 6 $\frac{5}{8}$ ", 7 $\frac{5}{8}$ "	112.00		125.00	Bank	Bagdad	
2103	5 $\frac{1}{16}$ ", 6 $\frac{5}{8}$ ", 7 $\frac{5}{8}$ "	125.00		137.00	Banjo	Bagesse	
2104	5", 5 $\frac{1}{16}$ ", 6 $\frac{5}{8}$ "	90.00		100.00	Bark	Beg	
2105	4", 4 $\frac{1}{2}$ ", 5"	112.00		125.00	Bait	Beget	
2106	4", 4 $\frac{1}{2}$ ", 5"	70.00		77.00	Bacon	Beggar	
2107	5", 5 $\frac{1}{16}$ ", 6 $\frac{5}{8}$ "	56.00		62.00	Baby	Begin	
2108	5 $\frac{1}{16}$ ", 6 $\frac{5}{8}$ ", 7 $\frac{5}{8}$ "	42.00		47.00	Banana	Bigot	
2109	6 $\frac{5}{8}$ ", 7 $\frac{5}{8}$ ", 8 $\frac{5}{8}$ "	112.00		125.00	Banner	Big	
2110	7 $\frac{5}{8}$ ", 8 $\frac{5}{8}$ "	140.00		155.00	Barley	Bog	
2121	7 $\frac{5}{8}$ "	350.00		400.00	Barrel	Bogus	



CLEATS

Furnished in either cast iron galvanized or bronze and tapped to flagpole with  $\frac{5}{16}$ -in. galvanized flat head stove bolts or  $\frac{5}{16}$ -in. bronze machine screws.

	Prices	Galvanized	Bronze	Telegraphic Code
9"	\$ .75	\$1.50		Clergy

Not Sold Separately  
(See page 58)

CLEAT COVERS

Cast iron galvanized, fastened to flagpole by galvanized iron hasp and staple with flat head brass machine screws. Hasp is secured to staple with Yale 6-lever lock.

Price	Telegraphic Code
\$10.00	Clerk



Not Sold Separately  
(See page 58)

HALYARDS

	Price per Foot	Telegraphic Code
3/8" diameter U. S. standard manila bolt rope .....	\$ .04	Helm
Silver Lake A No. 10 cotton braided rope .....	.05	Holster
Two bronze swivel snaps furnished without charge with each set of halyards.		

We recommend unequivocally for halyards the 3/8" U. S. standard manila bolt rope, which we have found to be the most serviceable cordage for halyard purposes. In case the halyard becomes worn a new one is very easily attached and reeved through the sheaves of the truck without the necessity of climbing the flagpole. Silver Lake A No. 10 cotton braided rope, which

is more durable and better appearing than the manila bolt rope, is furnished at a higher cost.

We do not recommend under any circumstances the installation of Metallic Halyards, as they have never proved satisfactory. The fine wires soon become broken, chafe against the flagpole, ruin the painted or galvanized surface and are a serious menace to the hands of the operator. They are difficult to properly secure to the cleats and are a constant temptation to petty thieves. Therefore, we do not furnish Metallic Halyards unless compelled to by closed specifications.

## STANDARD BALL BEARING REVOLVING TRUCK

Suitable for flagpoles with top diameters up to 3½".

**Body**—7" cast iron galvanized or bronze, revolving on two sets (26 each) of ¼" diameter manganese bronze balls around

**Spindle**—Manganese bronze threaded 1¼" and 1½" standard pipe threads, capped with

**Hood**—Cast bronze pressed on spindle.

**Finial Rod**—5/8" steel rod galvanized or bronze.

**Sheaves**—2½" diameter bronze, suitable for 3/8" to ½" rope, revolving on five bronze roller bushings.

**Sheave Pins**—5/16" diameter Tobin bronze.



Not Sold Separately  
(See page 58)

With cast iron body  
With all bronze body

Prices  
\$10.00  
15.00

Telegraphic Code  
Tar  
Tent

## EXTRA HEAVY BALL BEARING REVOLVING TRUCK

Made in two body sizes: 8" body for flagpoles with top diameters up to 4½" and 10" body for flagpoles with top diameters up to 6½".

**Body**—8" or 10" cast iron galvanized or bronze, revolving on one set of (30) ¼" diameter manganese bronze balls around

**Spindle**—Manganese bronze threaded 1½" standard pipe threads capped with

**Hood**—Cast iron galvanized or bronze, pressed on spindle.

**Finial Rod**—5/8" to 1½" steel rod galvanized or bronze.

**Sheaves**—4" diameter bronze, suitable for 3/8" to ½" diameter rope, revolving on six bronze roller bushings.

**Sheave Pins**—½" diameter Monel Metal.



Not Sold Separately  
(See page 58)

	Prices
With 8" or 10" cast iron body	\$21.00
With 8" or 10" all bronze body	27.50

Telegraphic Code
Towel
Tub

## GOLD LEAFED COPPER BALLS

Balls are constructed of 20-oz. spun copper soldered to ¼-in. seamless brass tube and slipped over 5/8-in. diameter steel galvanized or bronze rod for attaching to truck. Balls are acid cleaned and gilded with Hastings XX gold leaf over three coats of galvanum and one coat of waterproof size.



Not Sold Separately  
(See page 58)

Diameter	Prices	Telegraphic Code
4"	\$2.00	Cadet
5"	3.00	Cafe
6"	4.00	Clip
8"	7.00	Couch
10"	14.50	Credit
12"	24.00	Crow
14"	52.00	Cube
16"	70.00	Coal
18"	90.00	Crab
24"	150.00	Cable



### EAGLE ON BALL FINIALS

(Measured tip to tip of wings)

Heavy copper hand-made on  $\frac{5}{8}$ -in. diameter steel rod galvanized (size increased with large eagles). Eagles acid cleaned and gilded with Hastings XX gold leaf over four coats of waterproof size.

Size	Prices	Telegraphic Code
18"	\$28.00	Worm
24"	36.00	Wrist
30"	56.00	Wood
36"	70.00	Wine
42"	90.00	Window
48"	110.00	Whistle
60"	200.00	Whisp
72"	250.00	Wasp
84"	350.00	Wand
96"	450.00	Wagon

### EAGLE WEATHERVANES

(Measured tip to tip of wings)



**Regular:** Eagle, ball and vane heavy copper; spindle rod wrought iron; cardinal points and scrolls cast iron. Eagle, ball, vane and cardinal points gilded with Hastings XX gold leaf over four coats of waterproof size.

Size	Prices	Telegraphic Code
24"	\$48.00	Table
30"	70.00	Tack
36"	84.00	Tea
42"	105.00	Taxi
48"	130.00	Thimble
60"	250.00	Ticket
72"	350.00	Tire
84"	400.00	Tooth
96"	500.00	Turkey

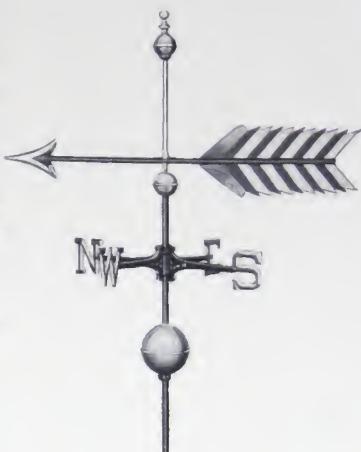
**Special:** Eagle, ball and vane heavy copper. Cardinal points, scrolls and spindle rod bronze. Gilded as above with Hastings XX gold leaf over four coats of waterproof size.

Size	Prices	Telegraphic Code	Size	Prices	Telegraphic Code
24"	\$60.00	Tube	60"	\$300.00	Tomatoe
30"	88.00	Trunk	72"	400.00	Tennis
36"	106.00	Trolley	84"	500.00	Trestle
42"	125.00	Tree	96"	600.00	Turnip
48"	160.00	Tray			

### ARROW WEATHERVANES

(Measured by length of arrow)

**Regular:** Arrow and balls heavy copper; spindle rod wrought iron; cardinal points and scrolls cast iron. Arrow, balls and cardinal points gilded with Hastings XX gold leaf over four coats of waterproof size.



Size	Prices	Telegraphic Code
24"	\$16.00	Apple
30"	24.00	Accident
36"	35.00	Acre
42"	40.00	Actor
48"	45.00	Attic
60"	60.00	Ape
72"	100.00	Arctic

**Special:** Arrow and balls heavy copper; cardinal points, scrolls and spindle rod bronze. Gilded as above with Hastings XX gold leaf over four coats of waterproof size.

Size	Prices	Telegraphic Code	Size	Prices	Telegraphic Code
24"	\$27.00	Ark	48"	\$80.00	Auto
30"	40.00	Armor	60"	100.00	Attorney
36"	50.00	Army	72"	150.00	Atlantic
42"	70.00	August			

### PEN WEATHERVANES

(Measured by length of pen)

**Regular:** Pen and balls heavy copper; spindle rod wrought iron; cardinal points and scrolls cast iron. Pen and balls gilded with Hastings XX gold leaf over four coats of waterproof size.



Size	Prices	Telegraphic Code
24"	\$22.00	Pig
36"	40.00	Pear
48"	50.00	Peach
60"	70.00	Plum
72"	106.00	Paddle

**Special:** Pen and balls heavy copper; cardinal points, scrolls and spindle rod bronze. Gilded as above with Hastings XX gold leaf over four coats of waterproof size.

Size	Prices	Telegraphic Code	Size	Prices	Telegraphic Code
24"	\$44.00	Peanut	60"	\$120.00	Potatoe
36"	68.00	Pearl	72"	180.00	Pump
48"	84.00	Pot			

## STEEL ROOF TUBES

(See Drawing No. B-10 on page 25)

(Measured by outside diameter of pole)

Price includes flash collar

Pole Diameter	Price	Telegraphic Code	Pole Diameter	Price	Telegraphic Code
3 1/2"	\$9.00	Roach	7 5/8"	\$24.00	Robin
4"	11.00	Roam	8 5/8"	28.00	Rock
4 1/2"	12.50	Roar	9 5/8"	31.00	Rogue
5"	14.50	Roast	10 3/4"	38.00	Roil
5 9/16"	18.50	Rob	11 3/4"	43.00	Rook
6 5/8"	21.50	Robe	12 3/4"	52.00	Roost

## BRONZE FLASH COLLARS

for roof installations

(See Drawing No. B-10 on page 25)

(Measured by outside diameter of pole)

Pole Diameter	Price	Telegraphic Code	Pole Diameter	Price	Telegraphic Code
3 1/2"	\$5.25	Fable	9 5/8"	\$17.00	Faith
4"	6.00	Fabric	10 3/4"	22.00	Fake
4 1/2"	6.75	Face	11 3/4"	26.00	Fall
5"	7.50	Fact	12 3/4"	29.00	False
5 9/16"	11.00	Fag	14"	32.00	Farm
6 5/8"	13.00	Fail	15"	34.00	Fakir
7 5/8"	14.00	Faint	16"	36.00	Fade
8 5/8"	16.00	Fair			

## CAST IRON POLE SOCKETS

(See Drawing No. B-10 on page 25)

(Measured by outside diameter of pole)

Price includes socket only, exclusive of plate

Pole Diameter	Price	Telegraphic Code	Pole Diameter	Price	Telegraphic Code
3 1/2"	\$.75	Dab	7 5/8"	\$2.50	Dark
4"	.75	Dado	8 5/8"	3.00	Darn
4 1/2"	1.00	Dale	9 5/8"	3.50	Dart
5"	1.00	Dally	10 3/4"	4.50	Dash
5 9/16"	1.25	Dam	11 3/4"	6.00	Date
6 5/8"	2.00	Dance	12 3/4"	7.50	Daub

## STEEL GUIDE FLANGES

(See Drawing No. B-10 on page 25)

(Measured by outside diameter of pole)

Price includes flash collar

Pole Diameter	Price	Telegraphic Code	Pole Diameter	Price	Telegraphic Code
3 1/2"	\$9.00	Guess	7 5/8"	\$24.00	Gun
4"	11.00	Guide	8 5/8"	28.00	Gurgle
4 1/2"	12.50	Guilch	9 5/8"	31.00	Gush
5"	14.50	Gulf	10 3/4"	38.00	Gusto
5 9/16"	18.50	Gullett	11 3/4"	43.00	Gut
6 5/8"	21.50	Gulp	12 3/4"	52.00	Gutter

## STEEL FOUNDATION TUBES

for ground installations

(See Drawing No. T-5 on page 42)

Tubes are copper bearing steel with welded steel plate on bottom, and are measured by inside diameter of tube.

I. D. of Tube	Price per Foot	Telegraphic Code	I. D. of Tube	Price per Foot	Telegraphic Code
4"	\$1.09	Many	11"	\$4.63	Mesh
4 1/2"	1.27	Marl	12"	5.07	Mint
5"	1.48	Mass	13 1/4"	5.46	Milk
6"	1.92	Mate	14 1/4"	5.86	Mire
7"	2.38	Mean	15 1/4"	6.26	Moan
8"	2.88	Meat	17 1/4"	7.06	Moon
9"	3.45	Meek	19 1/4"	7.86	Monk
10"	4.12	Mere			

## STEEL PLATES

for cast iron pole sockets

(See Drawing No. B-10 on page 25)

Inasmuch as the size and thickness of steel plates for pole sockets vary to suit the particular roof construction of every building, it is impossible to establish a list price for them. However, an ordinary size steel plate for poles up to 5 9/16" butt diameter should be figured at about double the list price of the corresponding socket; for poles over 5 9/16" butt diameter figure an ordinary size plate at about the list price of the socket.

## COPPER FLASHINGS

for roof set flagpoles and braces

(See Drawing No. B-9 on page 21)

Usually taken care of by roofing contractors at a lower cost than we could possibly quote. However, prices will be quoted on application.

## TUBULAR TURNBUCKLE BRACES

(See page 22 and Drawing No. B-9 on page 21)

Made of 2-in. extra heavy copper bearing steel pipe, with bronze turnbuckle and flash collar. These braces are adjustable 2 in. above or below the calculated length. A copper bearing steel brace collar is furnished with each set of braces.

Telegraphic Code  
Brag

Price of each brace, including brace anchor \$23.00

## ADJUSTABLE TELESCOPE BRACES

(See page 22 and Drawing No. B-9 on page 21)

Made in three weights of standard copper bearing steel pipe with bronze flash collar. These braces are adjustable 6 in. above or below the calculated length. A copper bearing steel brace collar is furnished with each set of braces.

Telegraphic Code  
Breach  
Bride  
Broach

Price of each brace, 2" x 1 1/2", including brace anchor \$18.00

Price of each brace, 2 1/2" x 2", including brace anchor 27.00

Price of each brace, 3" x 2 1/2", including brace anchor 40.00

## TENSION BRACES

(See page 22 and Drawing No. B-8 on page 23)

Made in three diameters of solid steel rounds with steel turnbuckle and flash collar. These braces are adjustable 3 in. above or below the calculated length. A copper bearing steel brace collar is furnished with each set of braces.

Telegraphic Code  
Brush  
Brutal  
Bruise

Price of each brace, 1" diameter, including brace anchor \$8.50

Price of each brace, 1 1/8" diameter, including brace anchor 8.75

Price of each brace, 1 1/4" diameter, including brace anchor 9.00

## CONTINUOUS TAPERED (PATENTED) COPPER BEARING STEEL OR BRONZE FLAGPOLES FOR GROUND SETTING OR ROOF SETTING

Continuous Tapered Flagpoles are of an entirely different construction from the Swaged Sectional Flagpoles and are far more costly. They are produced in either copper bearing steel or bronze, and may be tapered conically or with entasis. These flagpoles have a smooth uninterrupted exterior surface throughout, without visible joints or offsets, and resemble a finished wood flagpole in contour and appearance.

Continuous Tapered Flagpoles are especially suitable for memorials, monuments, plazas and buildings of exceptional architectural value where a prominent flagpole installation is desired to properly harmonize with the architectural design of the project.

Continuous Tapered Flagpoles for ground setting or roof setting are not carried in stock and are made to order only. They are, however, standardized in accordance with details shown on drawings Nos. T-3, T-4, T-1 and T-2 (see pages 35, 37, 39 and 41), but also may be proportioned to the Architect's individual conception if so desired. Approximately one-third of the visible height is cylindrical, the diameter of which corresponds to a standard pipe size and the tapered section is confined to the remaining visible height.

In the past it was impossible to obtain a wall thickness of more than  $\frac{1}{8}$ -in. material at the top with a minimum diameter of 5 in. By use of our patented processes we are able to taper copper bearing steel or bronze tubes to any desired taper or entasis, and can produce Continuous Tapered Flagpoles with a wall thickness at the top up to  $\frac{1}{2}$  in., with no limit to a minimum top diameter. The wall thickness of our Standard and Sub-Standard Continuous Tapered Flagpoles is from  $\frac{1}{4}$  in. to  $\frac{3}{8}$  in., depending upon the top diameter of the flagpoles as shown on drawings Nos. T-3, T-4, T-1 and T-2. (See pages 35, 37, 39 and 41.)

Continuous Tapered Flagpoles, regardless of

length, are shipped in one piece each, without field joints, but where handling or shipping will not permit, the flagpoles are shipped in two sections each and assembled at the erection site by means of a special field joint. This assembling, however, cannot be accomplished by inexperienced men, and we will not ship Continuous Tapered Flagpoles in sections unless the assembling in the field is accomplished by our own men. This tends to enhance the cost but insures the purchaser of a first-class installation which might be ruined by the neglect and inexperience of others doing this work.

Drawing No. T-3 on page 35 shows dimensions and details of Standard Continuous Tapered Flagpoles for ground setting or roof setting from 20 to 50 feet in length, while drawing No. T-4 on page 37 covers Standard Continuous Tapered Flagpoles in lengths from 60 to 100 feet. Drawing No. T-1 on page 39 shows dimensions and details of Sub-Standard Continuous Tapered Flagpoles for ground setting or roof setting from 20 to 50 feet in length, while drawing No. T-2 on page 41 covers Sub-Standard Continuous Tapered Flagpoles in lengths from 60 to 100 feet. The dimensions, wall thicknesses, details, etc., shown on drawings Nos. T-3, T-4, T-1 and T-2 apply to Continuous Tapered Flagpoles produced in either copper bearing steel or bronze.

Continuous Tapered Flagpoles may be proportioned to the Architect's individual conception, but we respectfully request Architects to consult us before specially designing Continuous Tapered Flagpoles for any of their projects.

Prices on Continuous Tapered Flagpoles for ground setting or roof setting gladly quoted on application.

Continuous Tapered Flagpoles may also be produced of Aluminum, and further information regarding Continuous Tapered Aluminum Flagpoles will be furnished on application.



85-ft. overall—Continuous Tapered Copper Bearing Steel Flagpole, 16-in. butt by 9-in. top

One of ten installations at the Indiana World War Memorial, Indianapolis, Indiana

Walker & Weeks, Architects

STANDARD · CONTINUOUS · TAPERED  
COPPER · BEARING · STEEL · FLAGPOLES ·

WITH SMOOTH, UNINTERRUPTED EXTERIOR SURFACE.

Heights shown below are visible or exposed heights. For ground set poles additional butt should be added for foundation depth (10% of exposed height) and ornamental base.

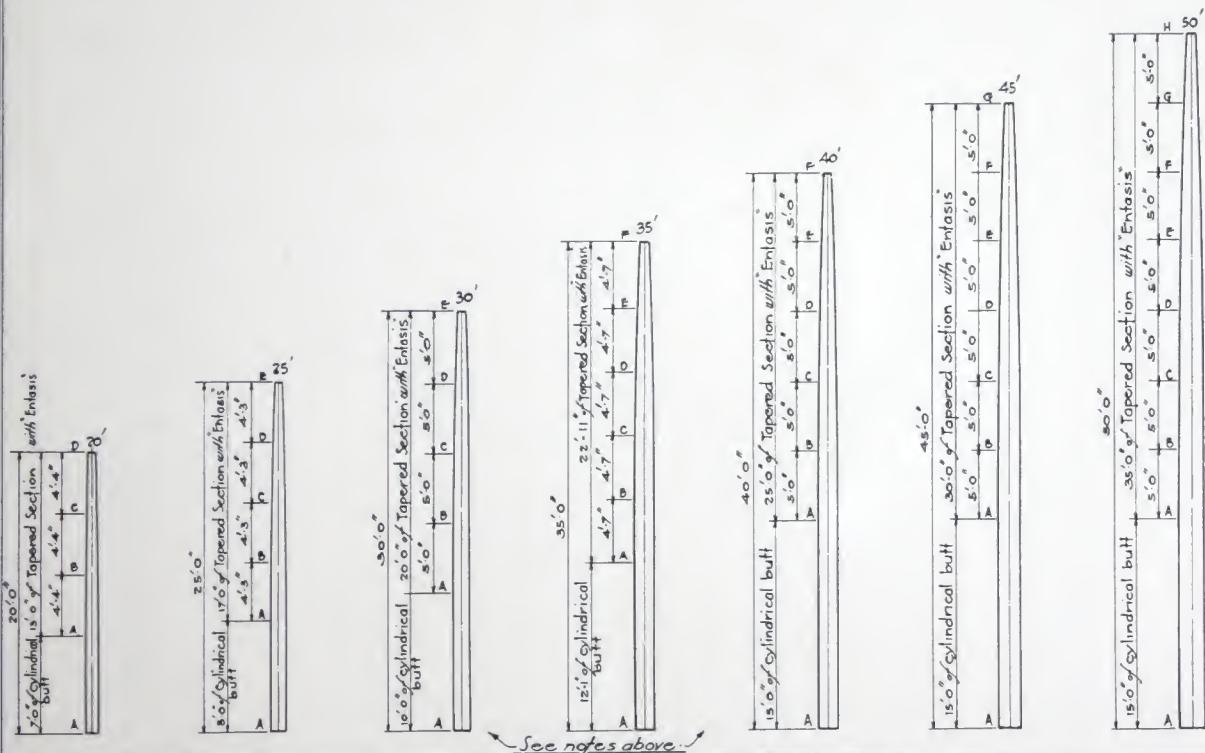
For roof set poles, additional butt should be added for distance below brace line to roof line or if pole penetrates roof, additional butt should be added for distance from top of parapet to Loft Floor.

For detail specifications see page 43-45 & 47.

For typical arrangement of foundation see page 42.

For miscellaneous fittings see page 28 to 32.

Prices on these flagpoles in copper bearing steel or bronze furnished on application



VISIBLE HEIGHT IN FEET	WEIGHT IN POUNDS	WT. OF ADDITIONAL BUTT PER FOOT	WALL THICKNESS	DIA A	DIA B	DIA C	DIA D	DIA E	DIA F	DIA G	DIA H
20	240	14.6	1/8"	5"	4 1/8"	4 1/8"	3"				
25	350	16.0	1/8"	6"	5 3/4"	5 3/4"	4 1/4"	3"			
30	540	18.9	5/16"	6 1/8"	6 1/8"	5 1/8"	4 13/16"	3 1/2"			
35	735	23.5	5/16"	7 5/8"	7 1/2"	6 15/16"	6 1/16"	4 7/8"	3 1/2"		
40	920	28.5	5/16"	8 7/8"	8 7/8"	7 1/2"	6 8/16"	5 9/16"	4"		
45	1216	33.9	5/16"	9 3/8"	9 7/16"	8 15/16"	8 1/16"	7"	5 5/8"	4"	
50	1785	40.4	3/8" x 5/16"	10 11/16"	10 4/16"	9 9/16"	8 5/8"	7 7/16"	6 1/16"	4 1/2"	

DRAWING  
NO. T-3

JOHN E. LINGO & SON, INC. FLAGPOLES IN STEEL & BRONZE  
CAMDEN, NEW JERSEY

NOT DRAWN  
TO SCALE



88 ft. overall—Standard Continuous Tapered Copper Bearing Steel Flagpole, 16-in. butt by 5-in. top

One of two installations at the Institute of Arts, Detroit, Michigan

Albert Kahn and Dr. Paul Cret, Architects

STANDARD · CONTINUOUS · TAPERED  
COPPER · BEARING · STEEL · FLAGPOLES ·

WITH SMOOTH, UNINTERRUPTED EXTERIOR SURFACE

Heights shown below are visible or exposed heights. For ground set poles additional butt should be added for foundation depth (10% of exposed height) and ornamental base.

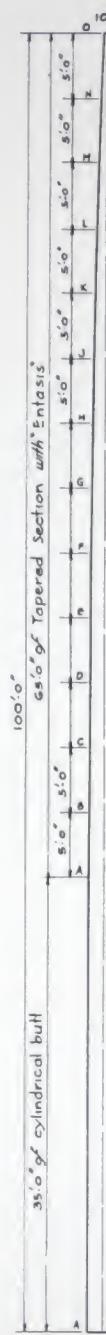
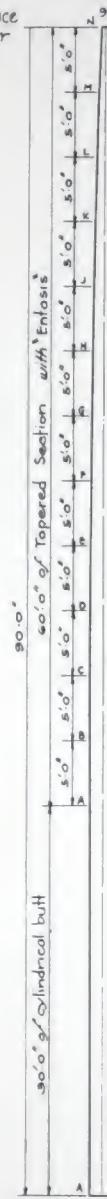
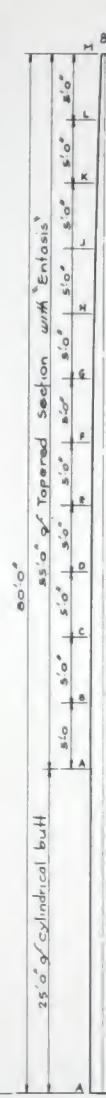
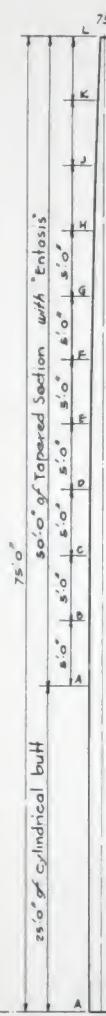
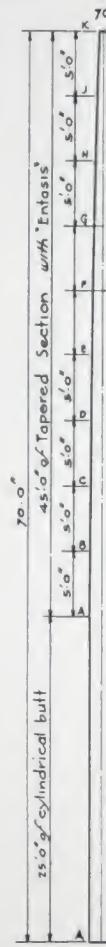
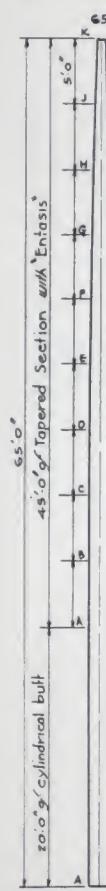
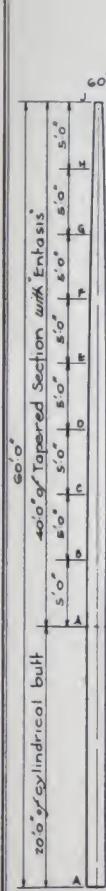
For roof set poles, additional butt should be added for distance below brace line to roof line or if pole penetrates roof additional butt should be added for distance from top of parapet to roof floor.

For detail specifications see page 43-45 & 47.

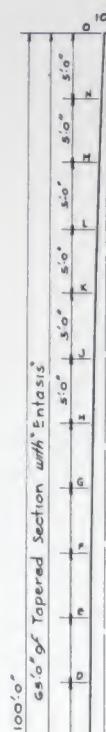
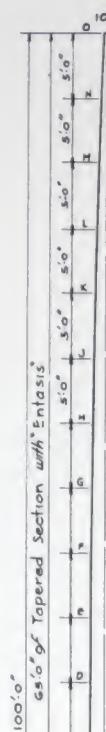
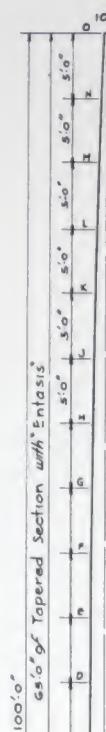
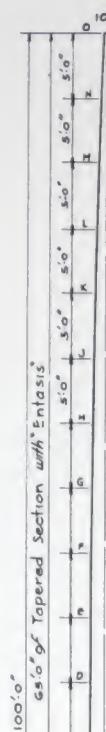
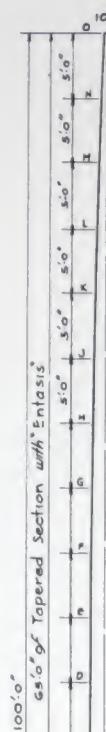
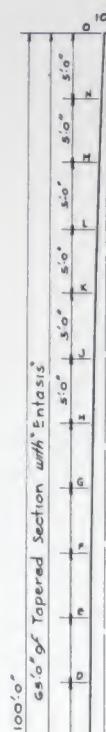
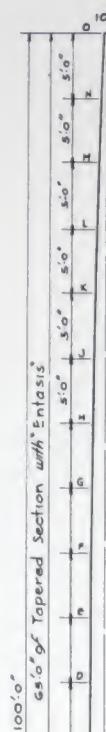
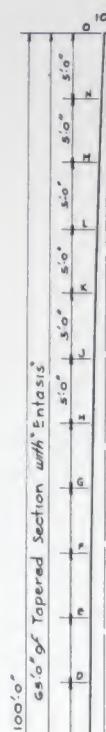
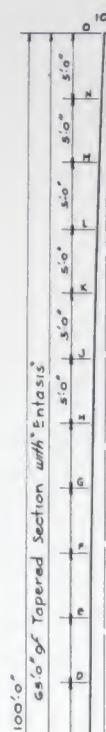
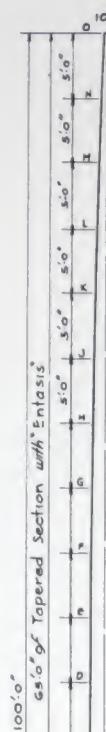
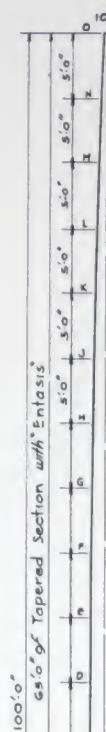
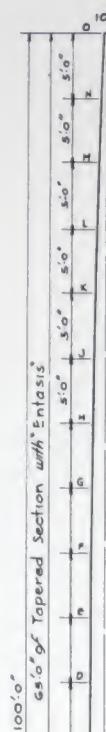
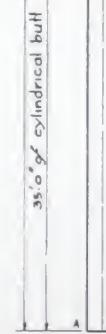
For typical arrangement of foundation see page 42.

For miscellaneous fittings see page 28 to 32.

Prices on these flagpoles in copper bearing steel or bronze furnished on application.



100' 0" 65°/65° Tapered Section with "Entasis"



VISIBLE HEIGHT IN FEET	WEIGHT IN POUNDS	WT. OF ADDITIONAL BUTT PER FOOT	WALL THICKNESS	DIA A	DIA B	DIA C	DIA D	DIA E	DIA F	DIA G	DIA H	DIA J	DIA K	DIA L	DIA M	DIA N	DIA O
60	2400	45.5	3/8"	11 3/4"	11 1/2"	11 5/8"	10 1/2"	9 13/16"	8 3/8"	7 1/2"	6 1/8"	4 1/2"					
65	2545	49.5	3/8"	12 1/2"	12 1/2"	12 5/8"	11 8/16"	10 1/2"	9 1/2"	7 1/2"	6 1/8"	5"					
70	3390	54.5	3/8"	13 7/8"	13 5/8"	13"	12 1/2"	11 1/2"	10"	8 3/8"	7 1/2"	5"					
75	4180	58.5	3/8"	15"	14 7/8"	14 5/8"	14 1/8"	13 1/8"	12 1/2"	11 1/8"	10 1/8"	8 3/8"	7 1/2"	5"			
80	4315	62.5	3/8"	16"	15 7/8"	15 5/8"	15 1/8"	14 1/8"	13 1/8"	12 1/8"	11 1/2"	10 1/8"	8 1/8"	7 1/8"	5"		
90	5418	70.5	3/8"	18"	17 15/16"	17 5/8"	17 1/8"	16 1/8"	15 1/8"	14 1/8"	13 1/2"	12 1/8"	10 1/8"	9 1/8"	7 1/8"	5"	
100	6670	78.5	3/8"	20"	19 15/16"	19 1/4"	19 1/8"	18 1/8"	17 1/8"	16 1/8"	15 1/2"	14 1/8"	12 1/8"	11"	9 1/4"	7 1/8"	5"

DRAWING  
NO. T-4

JOHN E. LINGO & SON, INC. FLAGPOLES IN STEEL & BRONZE  
CAMDEN, NEW JERSEY

NOT DRAWN  
TO SCALE



72 ft. overall—Continuous Tapered Copper Bearing Steel Flagpole, 12 $\frac{3}{4}$ -in. butt by 5-in. top with  
ornamental cast iron base design No. 1999

One of two installations at Civic Centre, Pasadena, Calif.

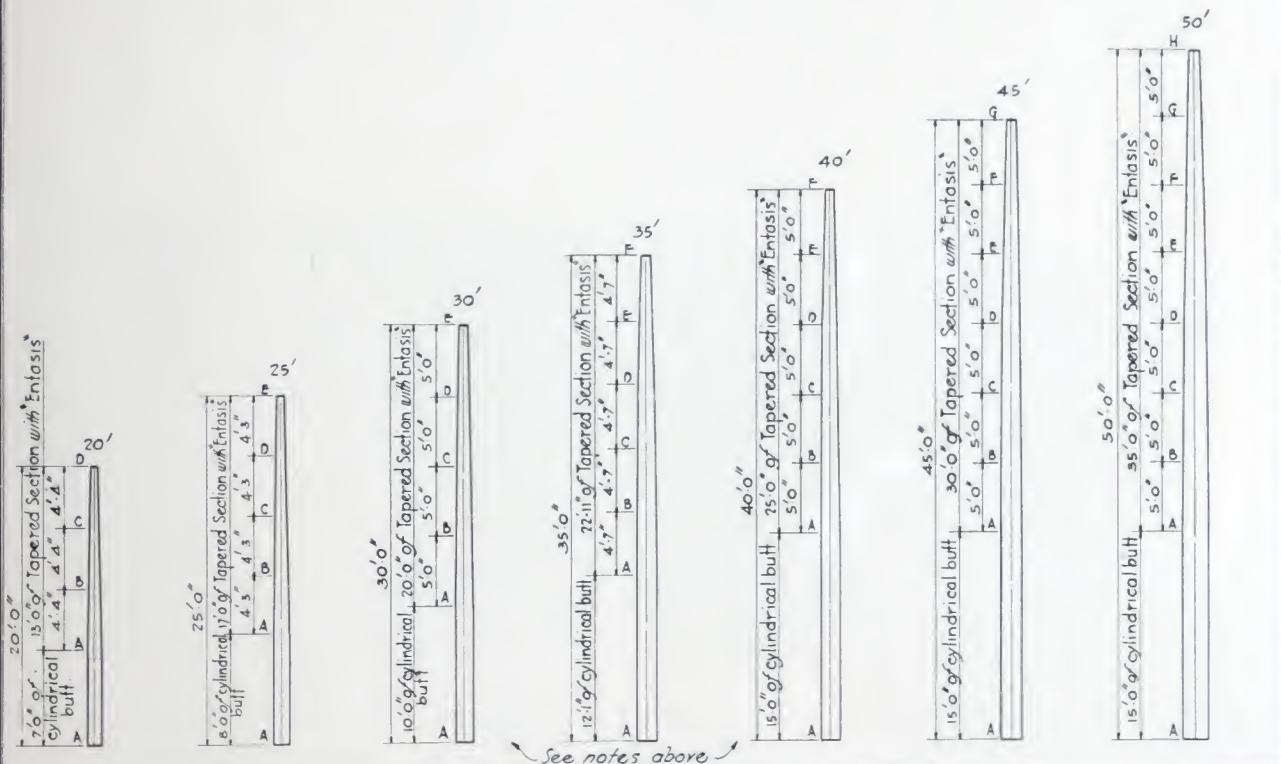
SUB-STANDARD CONTINUOUS-TAPERED  
COPPER-BEARING-STEEL-FLAGPOLES  
WITH SMOOTH, UNINTERRUPTED EXTERIOR SURFACE

Heights shown below are visible or exposed heights. For ground set poles, additional butt should be added for foundation depth (10% of exposed height) and ornamental base.

For roof set poles, additional butt should be added for distance below brace line to roof line or if pole penetrates roof additional butt should be added for distance from top of parapet to Loft Floor.

For detail specifications see page 43-45 & 47.  
 For typical arrangement of foundation see page 42.

For miscellaneous fittings see page 28 to 32.  
 Prices on these flagpoles in copper bearing steel or bronze furnished on application.



VISIBLE HEIGHT IN FEET	WEIGHT IN POUNDS	WT OF ADDITIONAL BUTT PER FOOT	WALL THICKNESS	DIA A	DIA B	DIA C	DIA D	DIA E	DIA F	DIA G	DIA H
20	180	9.1	1/4"	4"	3 15/16"	3 3/4"	2"				
25	272	10.7	1/4"	4 1/2"	4 1/8"	4"	3 15/16"	2 1/2"			
30	363	12.5	1/4"	5"	4 1/8"	4 1/2"	3 15/16"	3"			
35	476	14.6	1/4"	5 1/8"	5 1/16"	5 1/8"	4 1/8"	3 15/16"	3"		
40	724	18.9	5/16"	6 5/8"	6 1/2"	6 1/8"	5 1/8"	4 1/8"	3 1/2"		
45	1002	23.5	5/16"	7 1/8"	7 1/2"	7 1/8"	6 9/16"	5 1/4"	4 11/16"	3 1/2"	
50	1258	28.5	5/16"	8 3/8"	8 1/2"	8 3/8"	7 8/16"	6 11/16"	5 7/8"	4 3/4"	3 1/2"

DRAWING  
NO-T-1

JOHN E. LINGO & SON, INC. FLAGPOLES IN STEEL & BRONZE  
CAMDEN, NEW JERSEY

NOT DRAWN  
TO SCALE



50 ft. above base—Continuous Tapered Copper Bearing Steel Flagpole, 9 $\frac{5}{8}$ -in. butt by 4-in. top  
War Memorial, Glen Ridge, N. J.  
Goodwillie & Moran, Architects

SUB-STANDARD-CONTINUOUS-TAPERED  
COPPER-BEARING-STEEL-FLAGPOLES

WITH SMOOTH, UNINTERRUPTED EXTERIOR SURFACE.

Heights shown below are visible or exposed heights. For ground set poles, additional butt should be added for foundation depth (10% of exposed height) and ornamental base.

For roof set poles, additional butt should be added for distance below brace to roof line or if pole penetrates roof, additional butt should be added for distance from top of parapet to Loft Floor.

For detail specification see page 43-45-47  
 For typical arrangement of foundation see page 42. For miscellaneous fittings see page 28 to 32. Prices on these flagpoles 70' in copper bearing steel or bronze K furnished on application.



See notes above

VISIBLE HEIGHT IN FEET	WEIGHT IN POUNDS	WT. OF ADDITIONAL BUTT PER FOOT	WALL THICKNESS	DIA. A	DIA. B	DIA. C	DIA. D	DIA. E	DIA. F	DIA. G	DIA. H	DIA. J	DIA. K	DIA. L	DIA. M	DIA. N	DIA. O
60	1847	33.9	3/8" x 1/4"	9 1/8"	9 1/2"	9 1/4"	8 1/16"	8"	7 1/8"	6"	4 7/8"	3 1/2"					
65	2357	40.4	3/8" x 5/16"	10 1/4"	10 1/8"	10 1/8"	9 15/16"	9 3/8"	8 1/2"	7 1/8"	6 1/2"	5 3/16"	4"				
70	2727	45.5	3/8" x 5/16"	11 1/4"	11 1/8"	11 1/8"	10 1/2"	10 1/2"	9 1/2"	8 1/2"	6 1/2"	5 1/2"	4"				
75	3338	49.5	3/8" x 5/16"	12 1/8"	12 1/8"	12 1/8"	11 15/16"	11 1/2"	10 3/8"	9 1/2"	8 1/2"	7"	5 1/2"	4"			
80	3994	54.5	3/8" x 5/16"	14"	13 15/16"	13 15/16"	13 15/16"	12 1/2"	11 1/4"	10 3/8"	9 1/2"	8 1/2"	7 1/2"	5 5/8"	4"		
90	4727	58.6	3/8" x 5/16"	15"	14 15/16"	14 15/16"	14 15/16"	13 15/16"	12 1/2"	12"	10 3/8"	9 1/2"	8 1/2"	7"	5 5/16"	4"	
100	5800	62.6	3/8" x 5/16"	16"	15 15/16"	15 15/16"	15 15/16"	14 15/16"	14 1/2"	13 1/8"	12 1/2"	11 1/8"	9 1/8"	8 1/2"	7 1/16"	5 5/16"	4"

DRAWING  
NO.T.2

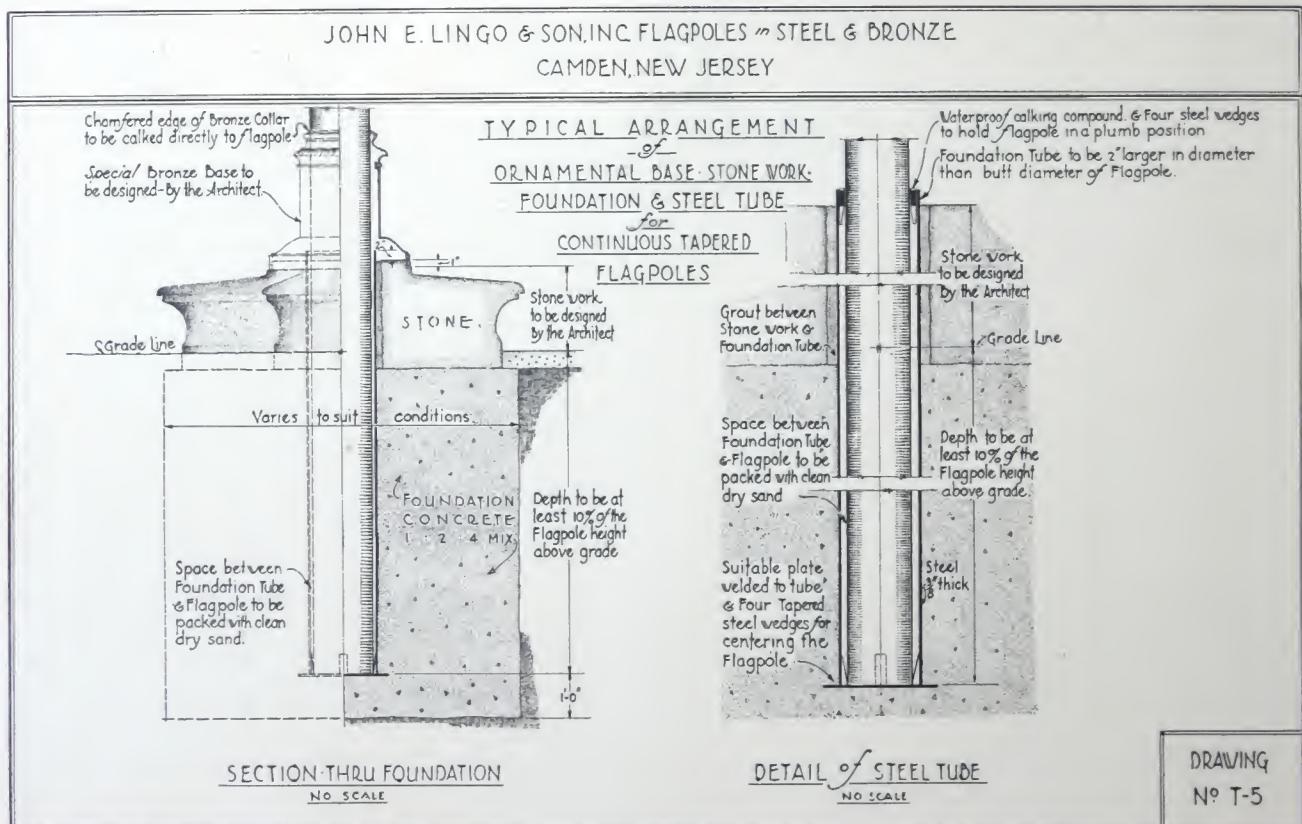
JOHN E. LINGO & SON, INC. FLAGPOLES IN STEEL & BRONZE  
CAMDEN, NEW JERSEY

NOT DRAWN  
TO SCALE

FOUNDATION, STONE WORK, ETC., FOR CONTINUOUS  
TAPERED FLAGPOLES FOR GROUND SETTING

Usually Continuous Tapered Flagpoles for ground setting are used as monuments, or memorials, and the Architect generally designs a special bronze base with special stone work. Drawing No. T-5, illustrated on this page, shows a typical arrangement of foundation, stone work, steel tube, ornamental base, etc., which makes an ideal setting for Continuous Tapered Flagpoles for monumental or memorial purposes. We

gladly offer our services to Architects, without obligation on their part, by assisting them in properly designing the necessary foundation so that no damage may result from vibration or water. When Continuous Tapered Flagpoles are used without stone work and ornamental base, the foundation may be designed in accordance with the general arrangement shown on drawing No. B-11 (see page 15).



**SPECIFICATIONS FOR STANDARD AND SUB-STANDARD  
CONTINUOUS TAPERED COPPER BEARING STEEL OR  
BRONZE FLAGPOLES FOR GROUND SETTING—WITH  
STANDARD FITTINGS**

Furnish and erect a (standard) (sub-standard) continuous tapered (copper bearing steel) (bronze) flagpole complete with all standard fittings as listed below, made by John E. Lingo & Son, Inc., Camden, New Jersey. Flagpole to be ground set.....feet exposed height above (grade) (top of ornamental base) with an overall length of .....feet with a butt diameter of.....inches tapering with entasis to a top diameter of.....inches.

**Flagpole Construction**—The flagpole shall be constructed of (copper bearing steel) (bronze) of diameters, wall thicknesses and entasis as standardized by John E. Lingo & Son, Inc., for this type flagpole. The flagpole shall have a smooth uninterrupted exterior surface throughout, without visible joints or offsets, and shall be shipped from factory in one piece without field joints.

**Ball**—The ball shall be of size recommended by John E. Lingo & Son, Inc., for this type flagpole, and shall be constructed of 20-oz. copper, covered with Hastings XX gold leaf over three coats of galvanum and one coat of waterproof size. Ball to be mounted on a  $\frac{3}{4}$ -in. seamless brass tube and slipped over a  $\frac{5}{8}$ -in. diameter bronze rod attached to truck.

**Truck**—(To be used on flagpoles with top diameters up to  $3\frac{1}{2}$  in. only)—To be “Lingo” standard ball bearing revolving truck, with bronze body, revolving on manganese bronze spindle, with top and bottom ball races with twenty-six  $\frac{1}{4}$ -in. diameter bronze balls each. Truck to be fitted with two  $2\frac{3}{8}$ -in. diameter

bronze roller bushed sheaves and  $\frac{3}{8}$ -in. diameter bronze pins.

**Truck**—(To be used on flagpoles with top diameters of 4 in. or over)—To be “Lingo” extra heavy ball bearing revolving truck, with bronze body, revolving on manganese bronze spindle, with bottom ball race with thirty  $\frac{1}{4}$ -in. diameter manganese bronze balls. Truck to be fitted with two 4-in. diameter bronze sheaves with bronze roller bearings and  $\frac{1}{2}$ -in. Monel Metal pins.

**Halyards**—Provide two sets of Silver Lake A No. 10 cotton braided halyards with bronze swivel snaps at each end for securing to flag.

**Cleats**—Provide two 9-in. bronze cleats tapped to flagpole with two  $\frac{5}{16}$ -in. bronze machine screws.

**Painting**—(To be included only if flagpole is constructed of copper bearing steel)—After erection of flagpole, apply over shop coat of red metal primer, two finishing coats of white lead and oil.

**Note**—For Typical Arrangement of Foundation, Stone Work, Ornamental Base, etc., for Continuous Tapered Flagpoles for ground setting, see drawing No. T-5 on page 42.



40-ft. overall—Sub-standard Continuous Tapered Copper Bearing Steel Flagpole, 6 $\frac{5}{8}$ -in. butt by  
3 $\frac{1}{2}$ -in. top

Southern New England Telephone Building, Stamford, Connecticut

R. W. Foote, Architect

**SPECIFICATIONS FOR STANDARD AND SUB-STANDARD  
CONTINUOUS TAPERED COPPER BEARING STEEL OR  
BRONZE FLAGPOLES FOR ROOF SETTING, ANCHORED  
TO ROOF WITH BRACES—WITH STANDARD FITTINGS**

Furnish and erect a (standard) (sub-standard) continuous tapered (copper bearing steel) (bronze) flagpole complete with all standard fittings as listed below, made by John E. Lingo & Son, Inc., Camden, New Jersey. Flagpole to be roof set with.....feet exposed height above roof level with.....inches butt diameter tapering with entasis to a top diameter of.....inches.

**Flagpole Construction**—The flagpole shall be constructed of (copper bearing steel) (bronze) of diameters, wall thicknesses and entasis as standardized by John E. Lingo & Son, Inc., for this type flagpole. The flagpole shall have a smooth uninterrupted exterior surface throughout, without visible joints or offsets, and shall be shipped from factory in one piece without field joints.

**Ball**—The ball shall be of size recommended by John E. Lingo & Son, Inc., for this type flagpole, and shall be constructed of 20-oz. copper, covered with Hastings XX gold leaf over three coats of galvanum and one coat of waterproof size. Ball to be mounted on a  $\frac{3}{4}$ -in. seamless brass tube and slipped over a  $\frac{5}{8}$ -in. diameter bronze rod attached to truck.

**Truck**—(To be used on flagpoles with top diameters up to  $3\frac{1}{2}$  in. only)—To be "Lingo" standard ball bearing revolving truck, with bronze body, revolving on manganese bronze spindle, with top and bottom ball races with twenty-six  $\frac{1}{4}$ -in. diameter bronze balls each. Truck to be fitted with two  $2\frac{3}{8}$ -in. diameter bronze roller bushed sheaves and  $\frac{3}{8}$ -in. diameter bronze pins.

**Truck**—(To be used on flagpoles with top diameters of 4 in. or over)—To be "Lingo" extra heavy ball bearing revolving truck, with bronze body, revolving on manganese bronze spindle, with bottom ball race with thirty  $\frac{1}{4}$ -in. diameter manganese bronze balls. Truck to be fitted with two 4-in. diameter bronze sheaves with bronze roller bearings and  $\frac{1}{2}$ -in. Monel metal pins.

**Halyards**—Provide two sets of Silver Lake A No. 10 cotton braided halyards with bronze swivel snaps at each end for securing to flag.

**Cleats**—Provide two 9-in. bronze cleats tapped to flagpole with two  $\frac{5}{16}$ -in. bronze machine screws.

**Flash Collar**—Provide bronze flash collar, place on the flagpole at the height indicated and calk metal to metal after roof flashing has been installed by the Roofing Contractor.

**Pole Socket and Plate**—Provide cast iron pole socket and steel plate of proper size to suit flagpole and secure with a bolt and bearing plate, fastened to (concrete) (wood) (steel) construction as indicated on drawing No. B-9 of John E. Lingo & Son, Inc.

**Braces**—Provide (tubular turnbuckle) (adjustable telescope) braces of proper number, length and sizes as detailed on drawing No. B-9 of John E. Lingo & Son, Inc., and complete with brace collar and brace anchors. Braces to be made of copper bearing tubular steel. Brace collar to be calked to flagpole after erection at the proper height to rigidly support the flagpole. All the necessary drilling of (steel) (wood) beams (or placing of anchors in concrete) to be located in accordance with detail drawings to be submitted to the Architect for approval by John E. Lingo & Son, Inc.

**Painting**—(To be included only if flagpole is constructed of copper bearing steel)—After erection of flagpole, apply over shop coat of red metal primer two finishing coats of white lead and oil.



40 ft. above roof by 53 ft. overall—Continuous Tapered Copper Bearing Steel Flagpole, 9 $\frac{5}{8}$ -in. butt  
by 3 $\frac{1}{2}$ -in. top

Chesapeake & Potomac Telephone Building, Washington, District of Columbia  
Voorhees, Gmelin & Walker, Architects

**SPECIFICATIONS FOR STANDARD AND SUB-STANDARD  
CONTINUOUS TAPERED COPPER BEARING STEEL OR  
BRONZE FLAGPOLES FOR ROOF SETTING, WITHOUT  
BRACES AND PENETRATING ROOF TO LOFT FLOOR—  
WITH STANDARD FITTINGS**

Furnish and erect a (standard) (sub-standard) continuous tapered (copper bearing steel) (bronze) flagpole complete with all standard fittings as listed below, made by John E. Lingo & Son, Inc., Camden, New Jersey. Flagpole to be roof set with.....feet above roof level plus a distance of.....feet to loft floor; flagpole butt diameter to be.....inches tapering with entasis to a top diameter of.....inches.

**Flagpole Construction**—The flagpole shall be constructed of (copper bearing steel) (bronze) of diameters, wall thicknesses and entasis as standardized by John E. Lingo & Son, Inc., for this type flagpole. The flagpole shall have a smooth uninterrupted exterior surface throughout, without visible joints or offsets, and shall be shipped from factory in one piece without field joints.

**Ball**—The ball shall be of size recommended by John E. Lingo & Son, Inc., for this type flagpole, and shall be constructed of 20-oz. copper, covered with Hastings XX gold leaf over three coats of galvanum and one coat of waterproof size. Ball to be mounted on a  $\frac{3}{4}$ -in. seamless brass tube and slipped over a  $\frac{5}{8}$ -in. diameter bronze rod attached to truck.

**Truck**—(To be used on flagpoles with top diameters up to  $3\frac{1}{2}$  in. only)—To be "Lingo" standard ball bearing revolving truck, with bronze body, revolving on manganese bronze spindle, with top and bottom ball races with twenty-six  $\frac{1}{4}$ -in. diameter bronze balls each. Truck to be fitted with two  $2\frac{3}{8}$ -in. diameter bronze roller bushed sheaves and  $\frac{3}{8}$ -in. diameter bronze pins.

**Truck**—(To be used on flagpoles with top diameters of 4 in. or over)—To be "Lingo" extra heavy ball bearing revolving truck, with bronze body, revolving on manganese bronze spindle, with bottom ball race with thirty  $\frac{1}{4}$ -in. diameter manganese bronze balls. Truck to be fitted with two 4-in. diameter bronze sheaves with

bronze roller bearings and  $\frac{1}{2}$ -in. Monel metal pins.

**Halyards**—Provide two sets of Silver Lake A No. 10 cotton braided halyards with bronze swivel snaps at each end for securing to flag.

**Cleats**—Provide two 9-in. bronze cleats tapped to flagpole with two  $\frac{5}{16}$ -in. bronze machine screws.

**Flash Collar**—Provide bronze flash collar, place on the flagpole at the height indicated, and calk metal to metal after roof flashing has been installed by the Roofing Contractor.

**Roof Tube**—(if concrete slab) or **Guide Flange**—(if steel or wood roof)—To be provided of proper size to suit flagpole butt diameter; to be fastened to roof construction and calked metal to metal before roof flashing has been installed by the Roofing Contractor.

**Pole Socket and Plate**—Provide cast iron pole socket and steel plate of proper size to suit flagpole and secure with a bolt and bearing plate, fastened to (concrete) (wood) (steel) construction as indicated on drawing No. B-10 of John E. Lingo & Son, Inc. Detail drawings covering the flagpole installation are to be submitted to the Architect for approval by John E. Lingo & Son, Inc.

**Painting**—(To be included only if flagpole is constructed of copper bearing steel)—After erection of flagpole, apply over shop coat of red metal primer two finishing coats of white lead and oil.



50 ft. above grade—Continuous Tapered Copper Bearing Steel Flagpole, 8 $\frac{5}{8}$ -in. butt by 3 $\frac{1}{2}$ -in. top, Municipal Pier, Ventnor, N. J.



60 ft. above grade—Continuous Tapered Copper Bearing Steel Flagpole, 12 $\frac{3}{4}$ -in. butt by 7 $\frac{1}{2}$ -in. top. One of two installations at the Essex County Hall of Records, Newark, N. J.



80 ft. overall—Continuous Tapered Copper Bearing Steel Flagpole, 14-in. butt by 5-in. top. Massachusetts Mutual Life Insurance Building, Springfield, Mass.



75 ft. above grade—Continuous Tapered Copper Bearing Steel Flagpole, 18-in. butt by 5-in. top. One of four installations at the Delaware River Bridge, Camden, N. J., and Philadelphia, Pa.



60 ft. above base—Continuous Tapered Copper Bearing Steel Flagpole, 12 $\frac{3}{4}$ -in. butt by 5 $\frac{1}{2}$ -in. top. Emalea Pusey Warner School, Wilmington, Del.

## CONTINUOUS TAPERED (PATENTED) OUTRIGGER OR WINDOW FLAGPOLES

Continuous Tapered Outrigger or Window Flagpoles are suitable for bank buildings, office buildings and all other buildings where it is more desirable to fly the flag at a lower level than on a flagpole located on the roof. These flagpoles are produced in either bronze or copper bearing steel in lengths varying from 7 to 30 feet, and may be projected from the face of the building at an angle of 45 degrees from the vertical only, by use of a fixed base arrangement or projected from the face of the building at any angle desired, by use of a hinged arrangement. The flagpoles have a smooth uninterrupted exterior surface throughout, without visible joints or offsets, and may be tapered conically or with entasis as selected by the Architect. The minimum top diameter is  $1\frac{1}{2}$  in. with a wall thickness of approximately  $\frac{3}{16}$  in. increasing downward to the butt.

Three standard arrangements of Continuous Tapered Outrigger or Window Flagpoles are available:

### ARRANGEMENT NO. B-12

16 to 30-ft. flagpoles, produced in either bronze or copper bearing steel, in three types: Light, Heavy and Extra Heavy; projected from the

face of the building only at the fixed angle of 45 degrees from the vertical, supported with braces and complete with all bronze fittings. (See drawing No. B-12 and specifications, both on page 51.)

### ARRANGEMENT NO. B-15

7 to 12-ft. flagpoles, produced in either bronze or copper bearing steel, in Light type only, projected from the face of the building only at the fixed angle of 45 degrees from the vertical, supported without braces and complete with all bronze fittings with two different bronze base arrangements. (See drawing No. B-15 and specifications, both on page 53.)

### ARRANGEMENT NO. B-14

16 to 30-ft. flagpoles, produced in either bronze or copper bearing steel, in three types: Light, Heavy and Extra Heavy; projected from the face of the building at any angle desired by use of a hinged arrangement, supported with braces and complete with either all bronze fittings (for bronze flagpoles), or bronze, galvanized iron and steel fittings in combination (for copper bearing steel flagpoles). (See drawing No. B-14 and specifications, both on page 55.)



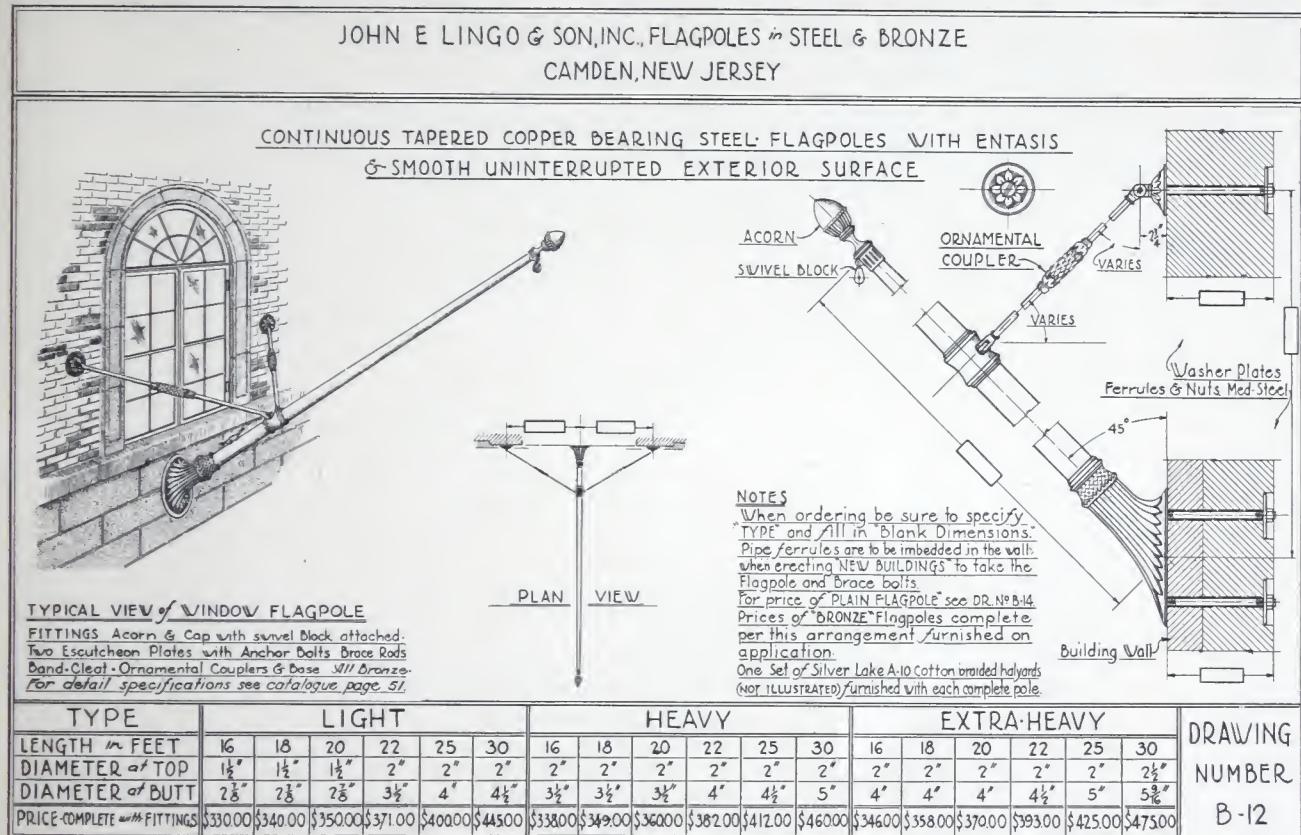
Two 20-ft. overall Continuous Tapered Extra Heavy Type Bronze Outrigger Flagpoles,  
per drawing No. B-12

Harriman Building, New York, N. Y.

**CONTINUOUS TAPERED OUTRIGGER OR WINDOW FLAGPOLES, EXTENDED FROM FACE OF THE BUILDING AT FIXED ANGLE OF 45 DEGREES, WITH BRACES**

For beauty and dignity, we recommend the outrigger or window flagpole arrangement shown on drawing No. B-12 below. Continuous Tapered Flagpoles of this arrangement are produced in either bronze or copper bearing steel, but the prices shown below cover the flagpoles in copper bearing steel only; prices on bronze flagpoles of this arrangement

gladly quoted on application. All bronze fittings are furnished with either the bronze or copper bearing steel flagpoles, and the bronze base is so arranged to project the flagpole from the face of the building only at an angle of 45 degrees from the vertical. Complete specifications covering this arrangement are outlined below.



**Specifications for Continuous Tapered Outrigger of Window Flagpoles Extended from Face of the Building at Fixed Angle of 45 Degrees with Braces**

Furnish and install a continuous tapered (bronze) (copper bearing steel) outrigger flagpole on the face of the building, where shown on plans, projected at an angle of 45 degrees from the vertical, all to be in strict accordance with drawing No. B-12 of John E. Lingo & Son, Inc., Camden, New Jersey. Flagpole to be (Light) (Heavy) (Extra Heavy) type.....feet long, with.....inches butt diameter tapering with entasis to.....inches top diameter.

Flagpole shall be of continuous tapered construction, having a smooth uninterrupted exterior sur-

face throughout, without visible joints or offsets, and shall be shipped from factory in one piece without field joints. All fittings shall be bronze, except the halyards, and shall consist of one bronze acorn top, one bronze pole cap with bronze swivel block, one 9-in. bronze cleat, one set of Silver Lake A No. 10 cotton braided halyards with bronze swivel snaps, one standard bronze base with bronze anchor bolts, washer plates and nuts, one set of bronze braces with bronze ornamental couplers, bronze brace collar, bronze rosettes, etc., all in accordance with drawing No. B-12 of John E. Lingo & Son, Inc.



11 ft. overall—Continuous Tapered Copper Bearing Steel Outrigger Flagpole per Drawing No. B-15  
with No. 1 ornamental cast bronze base

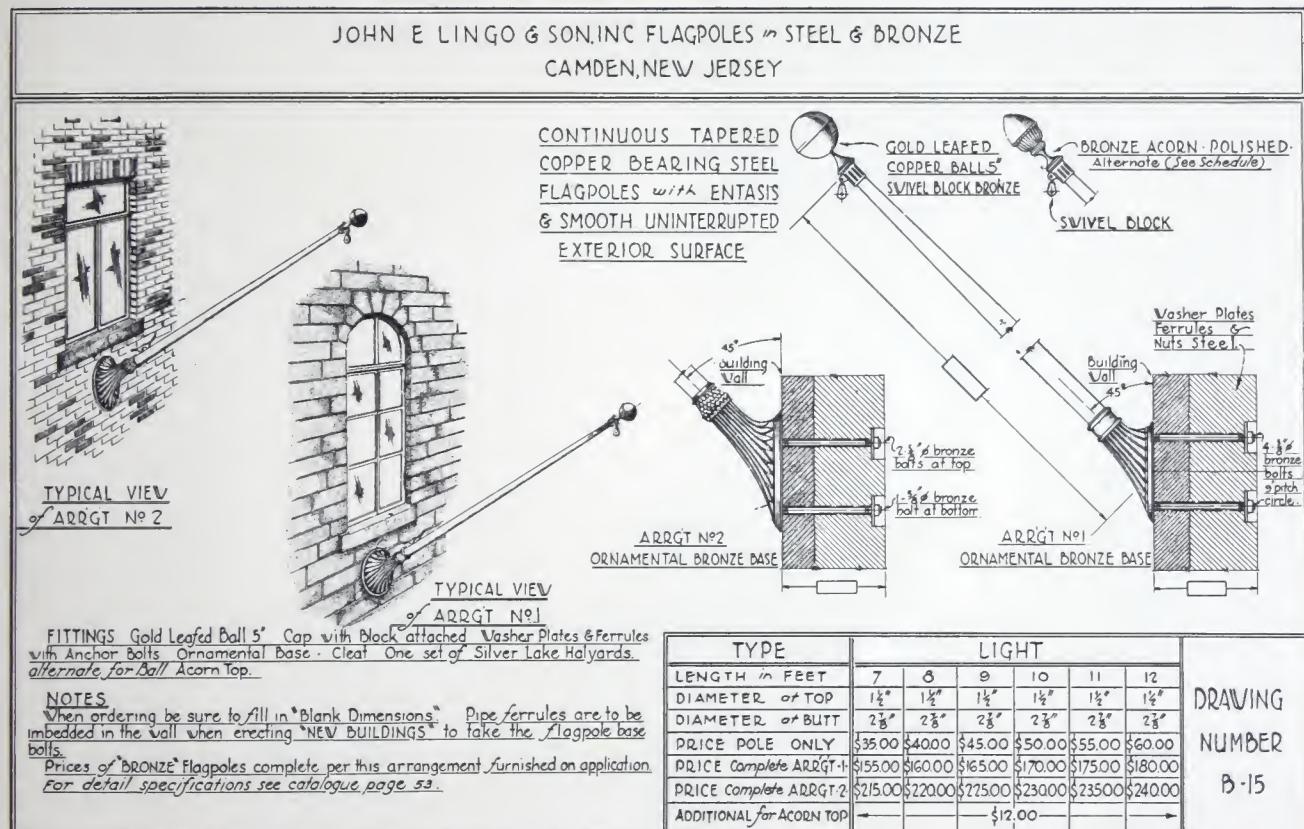
First National Bank, Riverside, New Jersey

Herbert O. Zeigler, Architect

CONTINUOUS TAPERED OUTRIGGER OR WINDOW FLAGPOLES, 7 TO 12 FEET LONG, EXTENDED FROM FACE OF BUILDING AT FIXED ANGLE OF 45 DEGREES, WITHOUT BRACES

Where outrigger or window flagpoles in short lengths up to 12 feet only are desired, the arrangement as shown on drawing No. B-15 below is recommended. Continuous tapered flagpoles of this arrangement are produced in either bronze or copper bearing steel, but the prices shown below cover the flagpoles in copper bearing steel only; prices on bronze flagpoles of this arrangement gladly quoted on application. All bronze fittings are fur-

nished with either the bronze or copper bearing steel flagpoles, and two different design bronze bases are available. Either bronze base is so arranged to project the flagpole from the face of the building only at an angle of 45 degrees from the vertical and the flagpoles are supported without braces. Complete specifications covering this arrangement are outlined below.



Specifications for Continuous Tapered Outrigger or Window Flagpoles, 7 to 12 Feet Long, Extended from Face of Building at Fixed Angle of 45 Degrees, Without Braces.

Furnish and install a continuous tapered (bronze) (copper bearing steel) outrigger flagpole on face of building, where shown on plans, projected at an angle of 45 degrees from the vertical, all to be in strict accordance with drawing No. B-15 of John E. Lingo & Son, Inc., Camden, New Jersey. Flagpole to be Light Type.....feet long, with..... inches butt diameter tapering with entasis to..... inches top diameter. The bronze base shall be design (No. 1) (No. 2) of John E. Lingo & Son, Inc.

Flagpole shall be of continuous tapered construction, having a smooth uninterrupted exterior sur-

face throughout, without visible joints or offsets, and shall be shipped from factory in one piece without field joints. All fittings shall be bronze, except the halyards, and shall consist of one bronze acorn top, one bronze pole cap with bronze swivel block, one 9-in. bronze cleat, one set of Silver Lake A No. 10 cotton braided halyards with bronze swivel snaps, one standard bronze base design (No. 1) (No. 2), with bronze anchor bolts, washer plates and nuts, all in accordance with drawing No. B-15 of John E. Lingo & Son, Inc.



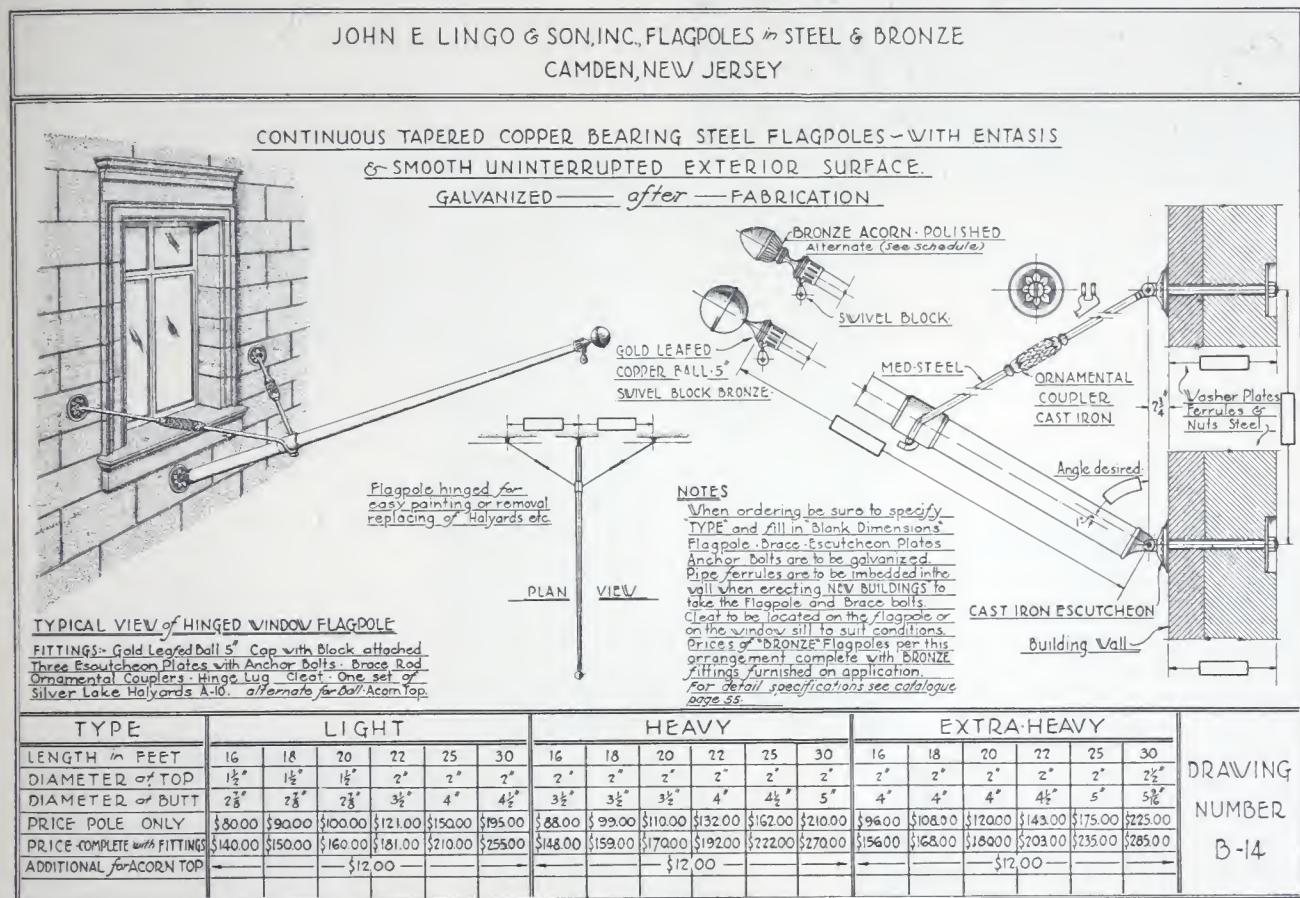
16 ft. overall—Continuous Tapered Heavy Type Copper Bearing Steel Outrigger Flagpole, per  
drawing No. B-14

New Jersey Bell Telephone Building, Mount Holly, New Jersey

## CONTINUOUS TAPERED OUTRIGGER OR WINDOW FLAGPOLES, WITH HINGED ARRANGEMENT TO PERMIT EXTENSION FROM FACE OF BUILDING AT ANY ANGLE DESIRED

For easy accessibility and economical maintenance, we recommend the outrigger or window flagpole arrangement shown on drawing No. B-14 below. Continuous tapered flagpoles of this arrangement are produced in either bronze or copper bearing steel, but prices shown below cover the flagpoles in copper bearing steel only; prices on bronze flagpoles of this arrangement gladly quoted on application. All bronze fittings are furnished with the bronze flagpoles, whereas bronze, galvanized cast iron and steel fittings in

combination are used with the copper bearing steel flagpoles. Flagpoles of this arrangement may be projected from the face of the building at any angle desired by the Architect. The hinged arrangement permits righting the flagpoles for repainting or repairs at a minimum cost, eliminates the risky operation with a boatswain's chair from the roof and saves the expense of scaffolding and dismantling. Complete specifications covering this arrangement are outlined below.



### Specifications for Continuous Tapered Outrigger or Window Flagpoles, with Hinged Arrangement to Permit Extension from Face of Building at Any Angle Desired

Furnish and install a continuous tapered (bronze) (copper bearing steel) outrigger flagpole on face of building, where shown on plans, projected at an angle of..... degrees from the vertical, all to be in strict accordance with drawing No. B-14 of John E. Lingo & Son, Inc., Camden, New Jersey. Flagpole to be (Light) (Heavy) (Extra Heavy) type.....feet long, with.....inches butt diameter tapering with entasis to.....inches top diameter.

(If flagpole is bronze include the following): Flagpole shall be of continuous tapered construction, having a smooth uninterrupted exterior surface throughout without visible joints or offsets and shall be shipped from factory in one piece without field joints. The fittings shall consist of one bronze acorn top (Alternate—one 5-in. gold leafed copper ball), one bronze pole cap with bronze swivel block, one 9-in. galvanized cast iron cleat, one set of Silver Lake A No. 10 cotton braided halyards with bronze swivel snaps, one set of galvanized steel rod braces with galvanized cast iron ornamental couplers and galvanized cast iron rosettes, one galvanized cast iron hinge lug with galvanized cast iron escutcheon plate, galvanized steel anchor bolts, washer plates, etc., all in accordance with drawing No. B-14 of John E. Lingo & Son, Inc.

bronze escutcheon plate, bronze anchor bolts, washer plates, etc., all in accordance with drawing No. B-14 of John E. Lingo & Son, Inc.

(If flagpole is copper bearing steel include the following): Flagpole shall be of continuous tapered construction, having a smooth uninterrupted exterior surface, throughout without visible joints or offsets, shall be galvanized after fabrication and shipped from factory in one piece without field joints. The fittings shall consist of one bronze acorn top (Alternate—one 5-in. gold leafed copper ball), one bronze pole cap with bronze swivel block, one 9-in. galvanized cast iron cleat, one set of Silver Lake A No. 10 cotton braided halyards with bronze swivel snaps, one set of galvanized steel rod braces with galvanized cast iron ornamental couplers and galvanized cast iron rosettes, one galvanized cast iron hinge lug with galvanized cast iron escutcheon plate, galvanized steel anchor bolts, washer plates, etc., all in accordance with drawing No. B-14 of John E. Lingo & Son, Inc.



35 ft. overall—Continuous Tapered Copper Bearing Steel Flagpole, 7 $\frac{5}{8}$ -in. butt by 3 $\frac{1}{2}$ -in. top. North Broad Street Station of the Reading Company, Philadelphia, Pa.



50 ft. above base—Continuous Tapered Copper Bearing Steel Flagpole, 10 $\frac{3}{4}$ -in. butt by 4-in. top. One of two installations at the Kenan Memorial Stadium, Chapel Hill, North Carolina



Left: Three Continuous Tapered Copper Bearing Steel Flagpoles. Three of four installations at the Bank of New York & Trust Building, New York, N. Y.



66 ft. overall—Continuous Tapered Copper Bearing Steel Flagpole, 20-in. butt by 10-in. top. One of two installations at the North Station of the Boston & Maine Railroad, Boston, Mass.



Two 35 ft. overall—Continuous Tapered Copper Bearing Steel Outrigger Flagpoles, 7 $\frac{5}{8}$ -in. butt by 3 $\frac{1}{2}$ -in. top. Fidelity-Philadelphia Building, Philadelphia, Pa.

**PARTIAL LIST OF INSTALLATIONS OF "LINGO"  
CONTINUOUS TAPERED FLAGPOLES**

No. of Installations	No. of Installations
Rochester Trust & Safe Deposit Building, Rochester, N. Y.....(bronze)	1
Y. M. C. A. Building, Bridgeport, Conn. (bronze)	1
Harriman Building, New York, N. Y....(bronze)	2
Jefferson Medical College, Philadelphia, Pa. (bronze)	3
Haddon Hall, Atlantic City, N. J.....(bronze)	3
Bank of Manhattan Building, New York, N. Y. ....(bronze)	1
Milwaukee Gas Light Co. Building, Milwaukee, Wis. ....(bronze)	1
Bank of New York & Trust Co. Building, New York, N. Y.....	4
Explorers Club, New York, N. Y.....	2
Fuller Building, New York, N. Y.....	4
Dalton School, New York, N. Y.....	1
Hotel New Yorker, New York, N. Y.....	8
New York State Office Building, New York, N. Y. ....	2
Lincoln Building, New York, N. Y.....	3
Tebbutt Building, Albany, N. Y.....	1
State Bank, Albany, N. Y.....	1
West Junior High School, Albany, N. Y.....	1
National Biscuit Co. Building, Buffalo, N. Y....	1
Ursuline School for Girls, New Rochelle, N. Y....	1
Great Neck High School, Great Neck, Long Is- land, N. Y.....	1
Chamber of Commerce Building, Jamaica, Long Island, N. Y.....	1
The White House, Washington, D. C.....	1
Addition to 12th St. Telephone Building, Wash- ington, D. C.....	1
British Embassy Building, Washington, D. C....	1
Civic Center, Pasadena, Cal.....	2
Southwestern Bell Telephone Co. Building, Dallas, Tex. ....	2
G. T. Hall Building, Big Springs, Tex.....	1
Eastern Arkansas Bank, Forrest City, Ark.....	1
Masonic Temple, St. Louis, Mo.....	2
Eastman Kodak Building, St. Paul, Minn.....	2
Mutual Home & Savings Association Building, Grand Rapids, Mich.....	1
Owosso Stadium, Owosso, Mich.....	2
Penobscot Building, Detroit, Mich.....	4
Institute of Arts, Detroit, Mich.....	2
Commonwealth Edison Building, Chicago, Ill....	2
Steuben Club, Chicago, Ill.....	4
Henry Clay High School, Lexington, Ky.....	1
Tennessee War Memorial Gardens, Nashville, Tenn. ....	2
Memorial Entrance, Municipal Stadium, Bir- mingham, Ala. ....	2
Duke University Stadium, Durham, N. C.....	15
University of North Carolina Stadium, Chapel Hill, N. C.....	2
American Legion Memorial, Bloomington, Ill....	1
Herndon Brothers Store, Springfield, Ill.....	2
U. S. Veterans Hospital, Augusta, Ga.....	1
U. S. Veterans Hospital, Hines, Ill.....	1
Indiana World War Memorial, Indianapolis, Ind. ....	10
Union Gas & Electric Co. Building, Cincinnati, Ohio .....	1
Masonic Temple, Portsmouth, Ohio.....	2
Martin Aircraft Building, Baltimore, Md.....	1
Emalea Pusey Warner School, Wilmington, Del. ....	1
North Broad Street Station of the Reading Com- pany, Philadelphia, Pa.....	1
1500 Walnut Street Building, Philadelphia, Pa....	1
Provident Life Insurance & Trust Co. Building, Philadelphia, Pa. ....	1
Fidelity-Philadelphia Trust Co. Building, Phila- delphia, Pa. ....	2
Strawbridge & Clothier Department Store, Phila- delphia, Pa. ....	4
Blum Store, Philadelphia, Pa.....	2
Holmesburg Trust Co. Bldg., Philadelphia, Pa....	1
Fairhill Trust Co. Building, Philadelphia, Pa....	2
Delaware County Court House, Media, Pa....	2
Penn National Bank & Trust Company Building, Reading, Pa. ....	1
Imber Brothers Building, Reading, Pa.....	1
John Morrell Packing House, Cambridge, Mass. ....	1
Massachusetts Mutual Life Insurance Co. Build- ing, Springfield, Mass.....	1
North Station, Boston & Maine Railroad, Bos- ton, Mass. ....	2
Southern New England Telephone Co. Building, Stamford, Conn. ....	1
Southern New England Telephone Co. Building, Bridgeport, Conn. ....	1
Providence Nat. Bank Bldg., Providence, R. I....	1
Providence Institution for Savings, Providence, R. I. ....	2
Mt. Hope Bridge, Bristol, R. I.....	1
New York Central Ferry, Weehawken, N. J....	1
War Memorial, Glen Ridge, N. J.....	1
Y. M. C. A. Building, Paterson, N. J.....	2
New Jersey Bell Telephone Co. Building, Prince- ton, N. J.....	1
New Jersey Bell Telephone Co. Building, Mount Holly, N. J. ....	1
Municipal Building, Ventnor City, N. J.....	2
Municipal Pier, Ventnor City, N. J.....	1
Parochial School, Riverside, N. J.....	1
Music Pavilion, Ocean City, N. J.....	4
Collingswood Trust Building, Collingswood, N. J....	2
Essex County Hall of Records, Newark, N. J....	2
Camden County Court House Annex, Camden, N. J. ....	1
Camden Safe Deposit & Trust Co. Building, Camden, N. J.....	1
Delaware River Bridge, Camden, N. J., and Philadelphia, Pa. ....	4

## PROPER AND IMPROPER FLAGPOLE DESIGNS

The upper photograph on this page exemplifies the dangers of inferior poles and their extreme hazard to life and property. This flagpole fell during an ordinary storm and fortunately the wind directed the fall away from the building. No one was on the grounds at the time or loss of life would have been probable. The lower photograph shows the 70' above grade x 77'



overall Swaged Sectional Extra Heavy Pattern tubular Copper Bearing steel flagpole we furnished and erected in replacement of the original pole. The cost of new flagpole was triple that of the original pole and the new flagpole is safely flying an extremely large flag, the size of which is 30' x 50'. The failure of the original pole bears out the reason why we do not sell our flagpole fittings for poles not our own manufacture. Our revolving trucks and cleats, as illustrated on

pages 29 and 30, are practically "identification tags" for our flagpoles, in as much as our name appears on each of them. Up until 1927 we sold



these flagpole fittings separately for poles not our own manufacture, but on numerous occasions these inferior poles have failed similar to the failure shown on this page. The owners, upon examining the poles, would find our name appearing on the trucks and cleats, take it for granted that we were the manufacturers of the inferior poles and then demand that we pay for the property damaged by the failure of the poles. We were compelled, therefore, in order to protect our reputation, to discontinue selling these fittings separately and to strictly adhere to the policy of selling flagpole fittings only for flagpoles of our own manufacture. The average flagpole purchaser is not familiar with proper flagpole design and construction, but is often naturally attracted by low prices quoted for inferior poles. The question of proper design and construction should, therefore, be primarily considered when contemplating the purchase of a metal flagpole. Most any plumbing house, pipe jobber or the like will attempt to construct metal flagpoles to special order. Of course, these fabricators, not being specialists in this line, are not familiar with proper flagpole design and construction, and do not have the equipment and facilities to produce a product of high standard. Swaged Sectional or Continuous Tapered Metal Flagpoles, purchased from specialists in this line, assure the purchaser proper design and construction, life-long service and complete satisfaction.

## TUBULAR STEEL RADIO MASTS

Swaged Sectional Tubular Steel Radio Masts are standardized in heights from 37 ft. to 450 ft. and for antennae strains from 50 to 5000 lbs. Each mast consists of two or more tubular columns superposed upon one another, the joints between the columns being of the types shown on page 6. Each column of the mast is guyed in three directions to anchors.

Tubular Steel Radio Masts are more flexible and resilient than riveted structural steel masts which are many times heavier and more costly. The Tubular Mast offers a minimum of wind resistance and sleet surface not found in the structural mast. Repainting Tubular Masts is by far cheaper and more efficient due to the absence of corners and pockets difficult to reach with paint in the structural masts. Economy of ground space may justify the tapering tower of structural

steel, but when conditions permit the use of guys, the mast itself cannot be constructed of a more generally suitable material than tubular steel. Our long experience with tubular steel flagpoles enables us to produce Tubular Steel Radio Masts of real structural merit and by specializing in them their costs are lower than lattice or structural type masts.

Tubular Steel Radio Masts are used extensively by the U. S. Navy Department at the Radio Compass Stations, and recently we have made installations at Cape Mala, Republic of Panama; Galveston, Texas; Bethany Beach, Delaware; Cape Henlopen, Delaware, etc.

Complete information and details of Swaged Sectional Tubular Steel Radio Masts gladly furnished on request.



## SHIP AND YACHT SPARS OF COPPER BEARING STEEL OR BRONZE

We produce to special order ship and yacht spars made of copper bearing steel with swaged sectional or continuous tapered construction; or made of bronze with continuous tapered construction. The photograph on this page shows

one of the schooners of the "Maurice River Cove" oyster fleet we equipped with swaged sectional copper bearing tubular steel masts. Prices on copper bearing steel or bronze ship and yacht spars gladly quoted on application.

## Terms and Conditions

Prices shown in this catalogue supersede those in all former issues. Prices are subject to change without notice and quotations made are for prompt acceptance.

All agreements and contracts are subject to strikes, fires, accidents, delays in transportation, and other causes beyond our control.

In making shipments, our responsibility ceases when we have delivered the material to the transportation company and obtained a receipt for them in "good order." The material is then legally the purchaser's property and at his risk, and any claims for loss or damage in transit must be made by the purchaser on the transportation company.

All claims for corrections or deductions must be made within ten days after receipt of the material. Flagpoles or fittings returned without our permission will not be accepted. When it is necessary, from any cause whatsoever, to return material, our approval must first be obtained and correct shipping instructions will be furnished purchaser.

Any of our flagpoles proving defective within one year after date of purchase, when used for the purpose manufactured, will be replaced, but no claim for labor, dismantling or damage will be allowed.

11

